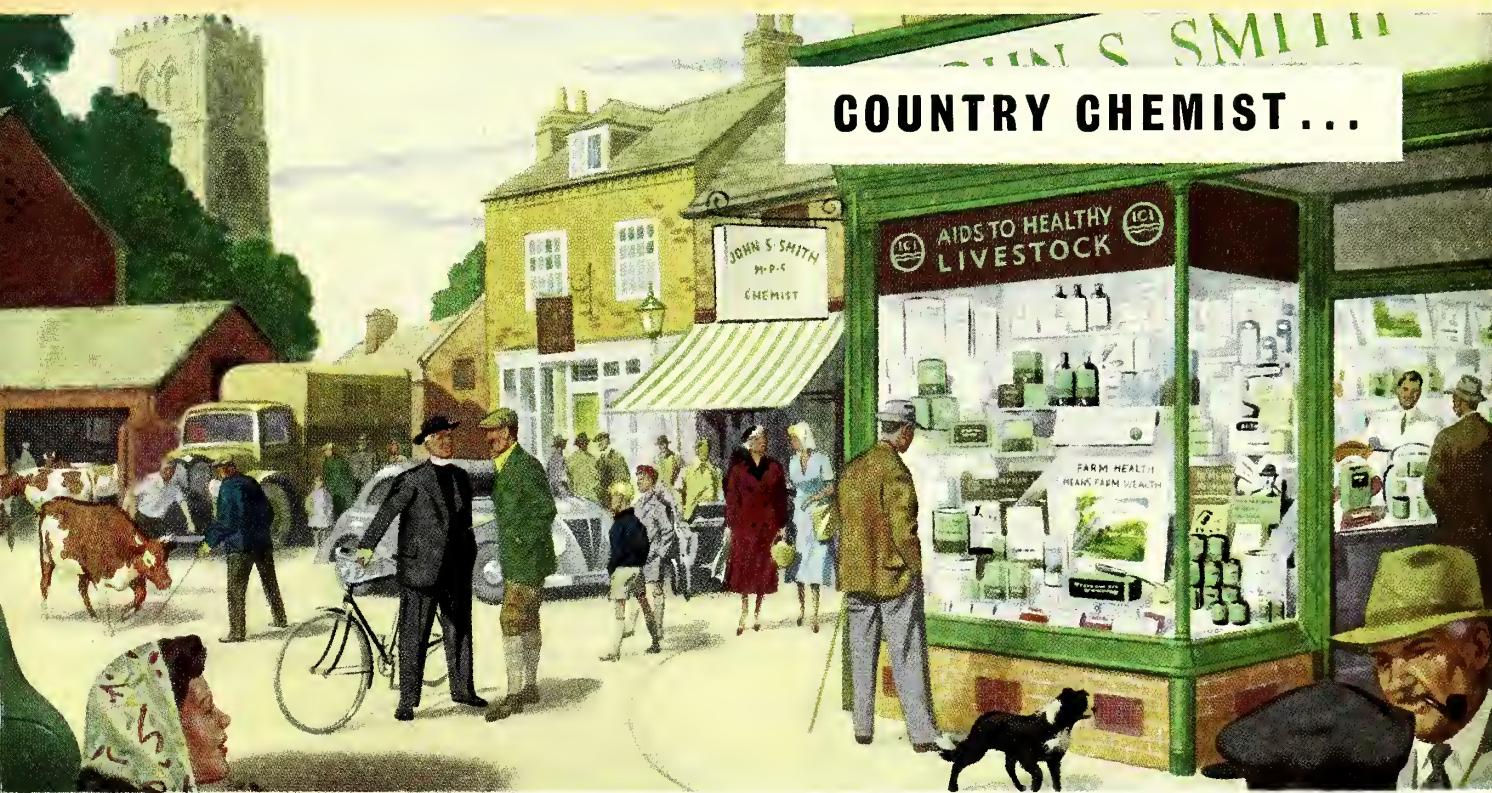




The CHEMIST AND DRUGGIST

For Retailer, Wholesaler and Manufacturer

SEPTEMBER 25 1954



Many country chemists are finding that the current emphasis on good farm management is making their veterinary counter an interesting and profitable corner. Farm health is good business—for farmer and pharmacist.

- 'Sulphamezathine' Sodium Solution 16% for Coccidiosis.
- 'Minel' the combined worm and fluke remedy.
- 'Phenovis' for worms in Cattle and Sheep.
- 'Cetavlon' Concentrate M.C. a safeguard against mastitis.
- 'Promix' Penicillin Food Supplement for pigs and poultry.
- and many others

AIDS TO HEALTHY LIVESTOCK

ARE CONTINUALLY ADVERTISED TO FARMERS



IMPERIAL CHEMICAL (PHARMACEUTICALS) LIMITED

A subsidiary company of Imperial Chemical Industries Limited

WILMSLOW, MANCHESTER

KERFOOTS PASTILLES

Good Pastilles—Well Packed—Well Displayed



THOMAS KERFOOT & COMPANY LIMITED, VALE OF BARDSEY, LANCS.

Helena Rubinstein presents . . .

PRINCE GOURIELLI

NEW TOILET PREPARATIONS FOR MEN !



After-Shave Lotion 15/6 • Talcum Powder 7/9 • Tonic Hair Groom 15/6 • Eau De Cologne 19/6 • Shaving Cream Bowl 10/9 • Tonic Hair Shampoo 7/9

EXCLUSIVE XMAS SELLING PROMOTION

*This dignified display stand is included in the basic-order.
Agency appointment is on selective basis.*

DISTINCTIVELY MASCULINE IN APPEAL!

New this season is the exclusive PRINCE GOURIELLI range of Toilet Preparations for men only. Devised for men by men in the famous Helena Rubinstein Laboratories, these quality products are distinctly masculine in every way. Handsome cocktail-shaker flasks. Brisk outdoor scent. Existing Helena Rubinstein Agents will be given first Agency option. Basic Order will include the Display Stand shown here, and a dignified Display Card. Sales are to be supported by advertising in "Esquire", "Punch" and "Tatler", and selected women's magazines.

Men's Soap

Included in the range is a new men's soap. These man-size tablets will retail in gift box for 10/9.



Gift Set

This austerely handsome Gift Set includes Talcum for Men, Tonic Hair Groom, After-Shave Lotion. Retail price 42/6.

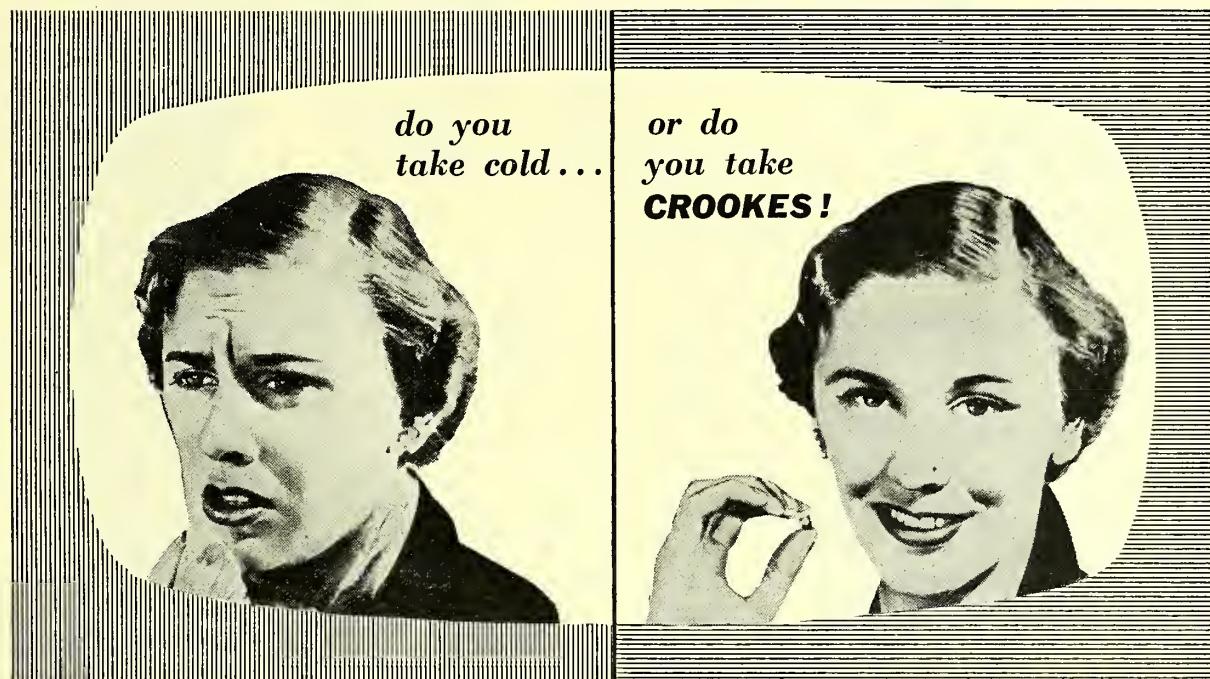
PRINCE GOURIELLI EXCLUSIVE TOILET PREPARATIONS FOR MEN

*OLE PROPRIETORS AND DISTRIBUTORS : HELENA RUBINSTEIN • 3 GRAFTON STREET • LONDON W.I.

Stable, soluble, palatable calcium aspirin

Aspirin can now be administered in bland, complete solution - as 'Disprin'. Disprin tablets not only overcome the two well-known defects of ordinary aspirin; but also that of calcium aspirin, which, as generally prepared, is liable to chemical breakdown during manufacture and storage. In the form of Disprin, dosage with calcium aspirin becomes both predictable and palatable.

DISPRIN
REGD. Provides stable,
soluble, palatable calcium aspirin.



CROOKES HALIBUT OIL

A mammoth, comprehensive, advertising campaign starts in the 4th week of September and continues at full strength throughout the winter.

Are you linking up with window and counter displays? Have you cashed in by placing your *first* Bonus Parcel order?

Our Bonus Terms leaflet has been mailed to every Retail Chemist in the U.K.

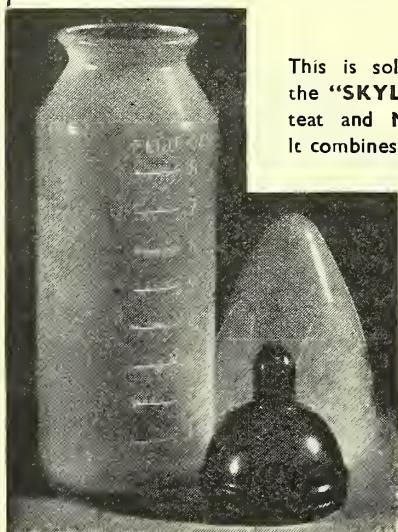
Standard Bonus Parcels remain exactly as last year.



All Crookes lines are C.F. lines.

P.A.T.A.

DUAL PURPOSE FEEDER



Regd. Trade Mark

This is sold complete with the "SKYLON" brand valve teat and NO-GERM CAP. It combines all the benefits of a feeding bottle with the advantages of a food measure. Additionally the wide neck permits of easier filling, and the large teat allows the nearest approach to natural feeding

"SKYLON"

POLYTHENE FEEDING BOTTLE

PATA.

The new modern lightweight feeding bottle that no mother should be without. Indispensable at all times. Made of Pure Polythene. Safe and

- UNBREAKABLE
- HYGIENIC
- TASTELESS
- ODOURLESS

UNAFFECTED BY FOODSTUFFS
All standard teats fit neck.
Will keep contents warm longer than any glass bottle

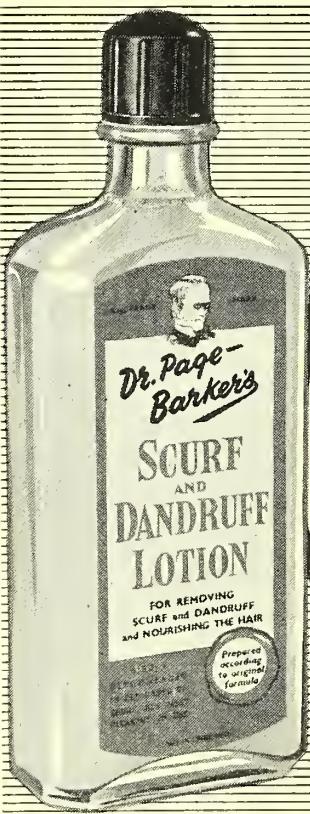


Manufactured by

FIBRENYLE LTD.

157 DUKES RD., LONDON, W.3
TELEPHONE : ACORN 5073

Obtainable from your usual Wholesaler



All the year round demand !

It's the established reputation of

Dr. Page Barker's
SCURF & DANDRUFF LOTION
D 43 SHAMPOO

that makes these lines so saleable—and profitable. Throughout the year an ever-increasing public relies on these treatments for hair health and hair care. Make sure your supplies are adequate. Keep your stocks in step with forceful, convincing advertising.

Attractive showcard available by return.

THOS. CHRISTY AND CO. LTD.
North Lane, Aldershot • HANTS



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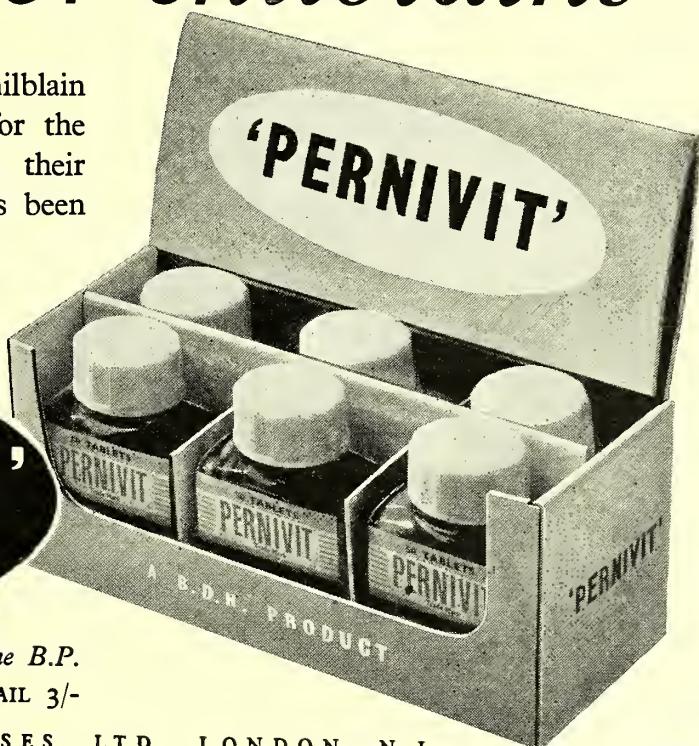
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'PERNIVIT' for chilblains

Every year, more and more chilblain sufferers discover Pernivit. Both for the treatment of chilblains and for their subsequent prevention, Pernivit has been remarkably successful.

Available in display cartons each containing six bottles.



Nicotinic Acid B.P. and Acetomenaphthone B.P.
Bottles of 50 tablets TRADE 2/- RETAIL 3/-

THE BRITISH DRUG HOUSES LTD. LONDON N.I

Print/2/7

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Bronnley
for
Christmas

BRONNLEY
FINE SOAPS AND
TOILET PREPARATIONS

Exquisitely Perfumed

Elegantly Presented

Regularly Advertised

Preferred by

Discriminating Customers

BY APPOINTMENT TOILET SOAP MAKERS



TO THE LATE KING GEORGE VI.



Women everywhere are welcoming

Petal Soft

Modess Masslinn

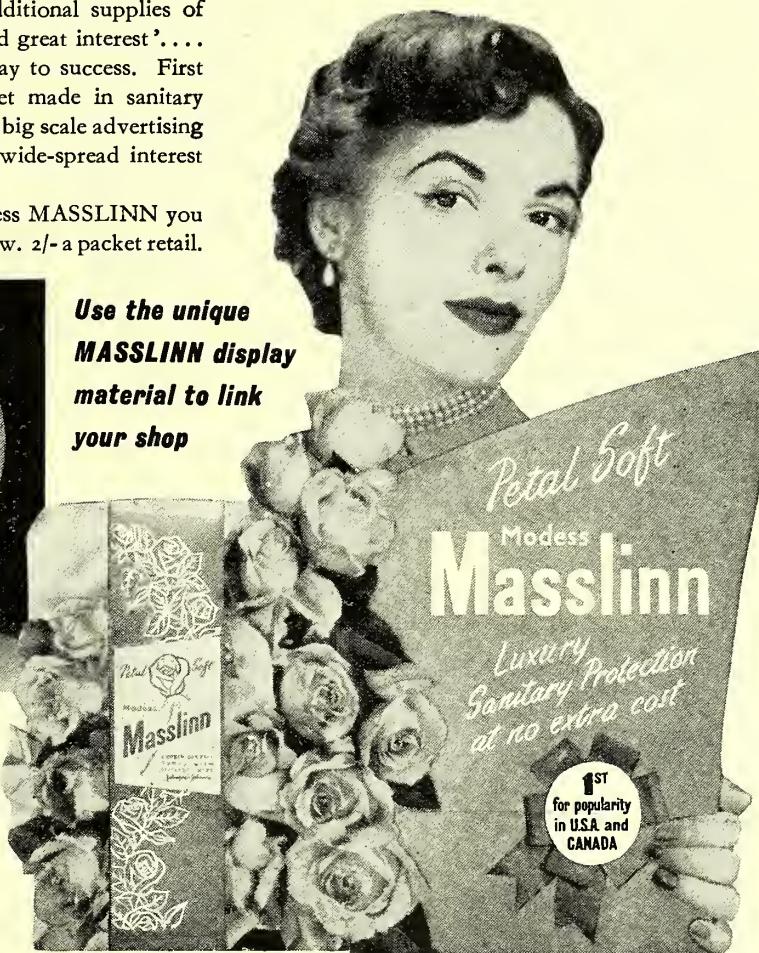
**RETAILERS REPORT BIG DEMAND FOR THE
NEW WONDER SANITARY TOWELS**

From North, South, East and West comes the same enthusiastic story—‘Modess MASSLINN selling fast’.... ‘New petal soft towels very well received’.... ‘Rush additional supplies of MASSLINN’.... ‘Display material created great interest’.... Modess MASSLINN are firmly on the way to success. First because they are the greatest advance yet made in sanitary protection and, second, because the striking big scale advertising and unique display material have excited wide-spread interest amongst women.

If you are not stocking and showing Modess MASSLINN you are missing out on sales. Place your order now. 2/- a packet retail.



Modess MASSLINN display material is something entirely different. Wonderfully feminine and colourful, it is bound to come in for special attention on your counter or in your window. Make full use of it and get the full benefit from the national advertising women are reading.



Modess MASSLINN mean more sales for you!

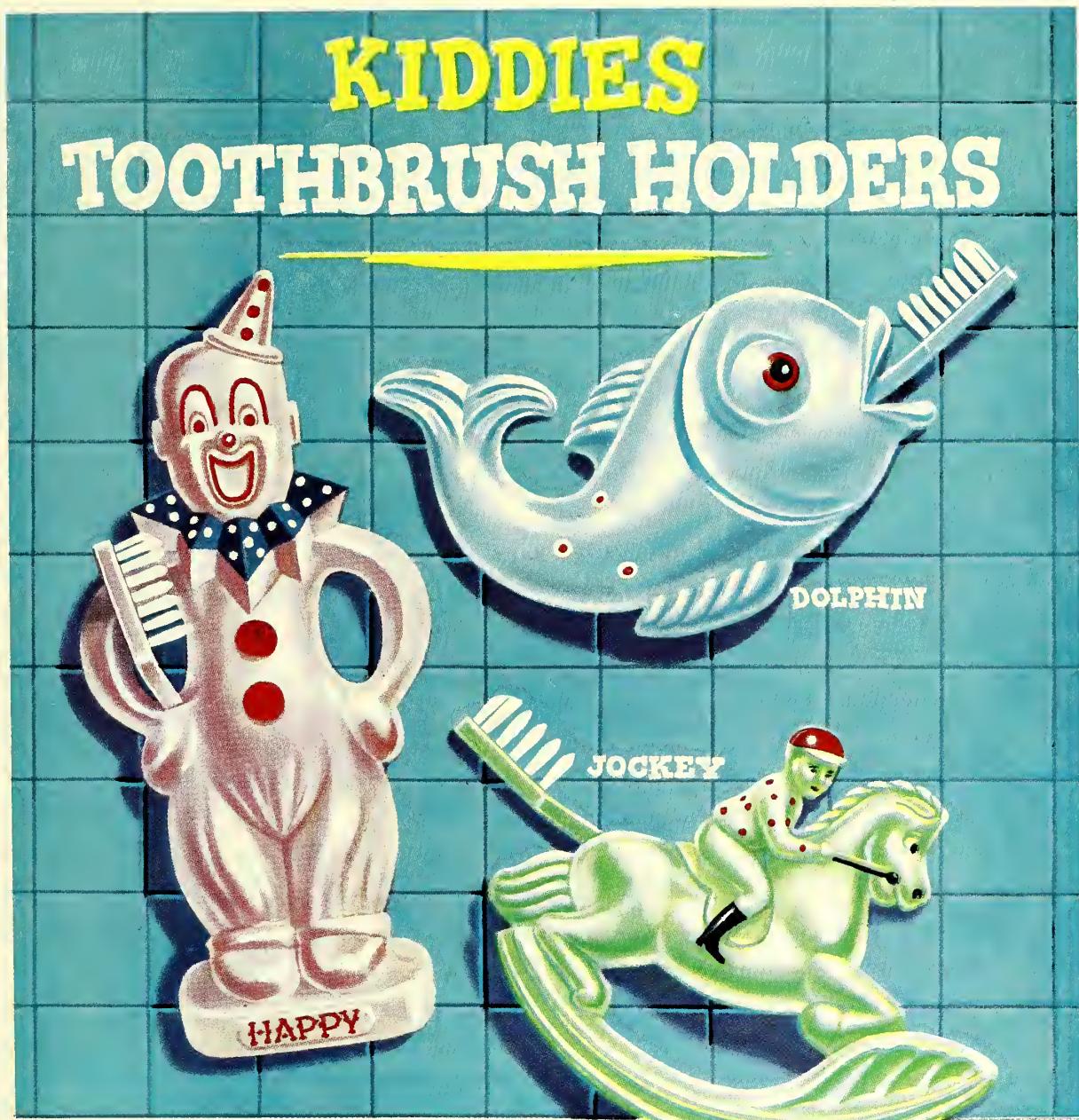
Johnson & Johnson (GT. BRITAIN) LTD., Personal Products Division, WREXHAM & LONDON



for all your

TABLETS

ARTHUR H. COX & CO. LTD. BRIGHTON



- Just watch the kiddies fall in love
- with "Jockey-Rocker", "Happy the
- Clown" and "Dolphin"—a merry
- trio of Toothbrush Holders! "Happy"
- stands, "Jockey" rocks and "Dolphin"
- sticks fast to the wall by means of a
- rubber suction attachment. Three
- sure-fire selling lines.
- • • • • • • • • • • • •

Wholesale and Export only

Combex
CREATIVE PLASTICS

GANTON HOUSE • GANTON STREET • LONDON • W.I

C67

ENDERING

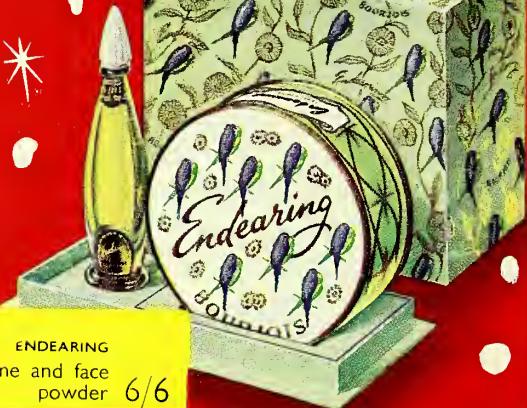
Talc and bath cubes 6/9



C68

ENDERING

Perfume and face powder 6/6



Colour

BOLD SPLASHES OF IT...

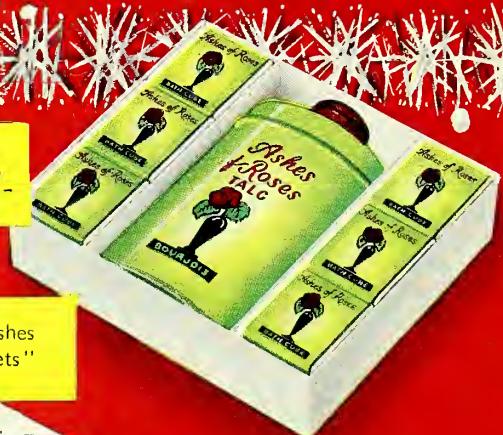
TO DAZZLE YOUR CUSTOMERS!
TO PUSH SALES SKY HIGH...

C57

Talc and 6 bath cubes 4/-

All available in "Lavender", "Ashes of Roses" and "Ashes of Violets"

C62

Talc, toilet soap
and bath cubes 3/3

C61

Talc, toilet soap
and bath cubes 3/3



Yes, this year, Bourjois are advertising in top women's magazines, with a total readership of over 31 million — and getting the full impact of wonderful, glorious colour! You'll benefit by selling more Bourjois gifts than ever before!

A COLOURFUL CHRISTMAS —
A PROFITABLE CHRISTMAS —

ANOTHER GOOD CHRISTMAS WITH

BOURJOIS



Your customers see the pack
and you see the profit

but the net is invisible

Invisibility - a desirable quality of hairnets and a chief selling feature in these Raywarp lines - should not be applied to products at Point of Sale. Raywarp realise that attractive packs mean better sales and so their nets are dressed to sell. These hairnets are consistent in their popular sale.

You can stock Raywarp with safety - their products, their packs, keep-

Raywarp ahead

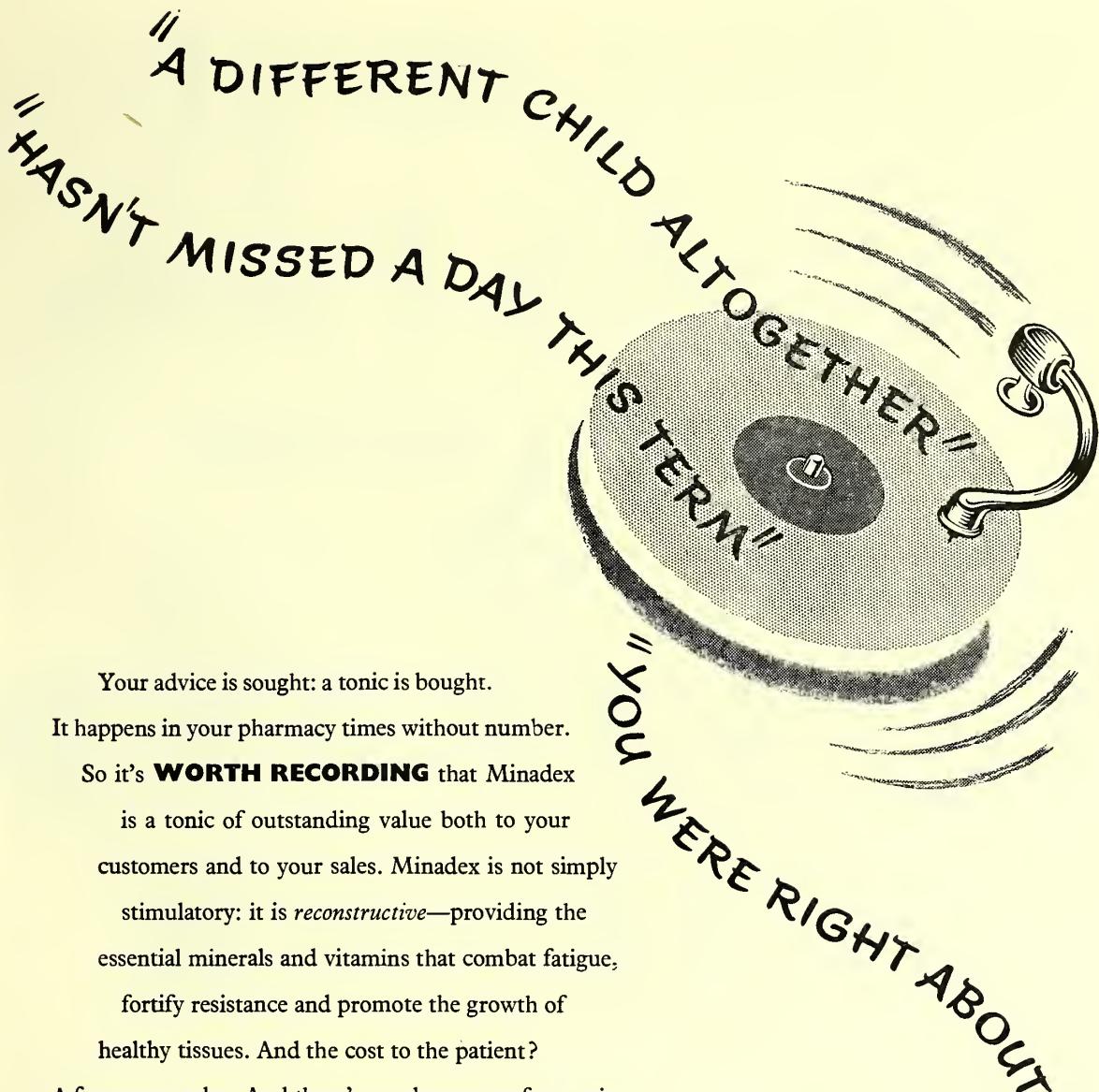


TOP SELLING TRIO

- NI (Blue Pack) Nylon-the super strong hardwearing net.
- R14 (Pink Pack) Real Silk, Super-fine, invisible.
- BII (Yellow Pack) Bun Net - 15-denier nylon - small mesh net, invisible. Fashion forecasts the return of Bun styles this season.

RAYWARP TEXTILES LIMITED - ALFRED STREET NORTH - NOTTINGHAM





MINADEX[®]

Trade mark

Orange-flavoured mineral-vitamin tonic

6-oz., 2/6 plus 5½d. tax (22/6d net per doz.)

12-oz., 4/4d plus 10d tax (39/- net per doz.)

80-oz., 24/- (18/- net each) Tax free dispensing pack

GLAXO LABORATORIES LIMITED, GREENFORD, MIDDLESEX BYRON 3434



These are the Wonder Foods

RECOMMENDED BY



GAYELORD HAUSER

GAYELORD HAUSER'S dietary methods have had a tremendous influence all over the world.

Now for the first time in Britain, these wonder foods specially recommended by Gayelord Hauser himself are on sale.

This is wonderful news for millions of women, who will be reading about it in the fashionable women's magazines. And they'll be looking in your windows and on your shelves for the distinctive packages, designed for Life & Beauty Ltd. Make sure they find them. If you haven't yet had stocks of all these great wonder foods drop a line at once to:

LIFE & BEAUTY LIMITED · 5 AVERY ROW · LONDON WI

DRIED SKIM MILK



4s. 10d. per 16 oz. tin

BREWERS' YEAST POWDER



6s. 6d. per 16 oz. tin

BREWERS' YEAST TABLETS



5s. 6d. for 250

WHEAT GERM



4s. 6d. per 12 oz. tin

BLACK MOLASSES

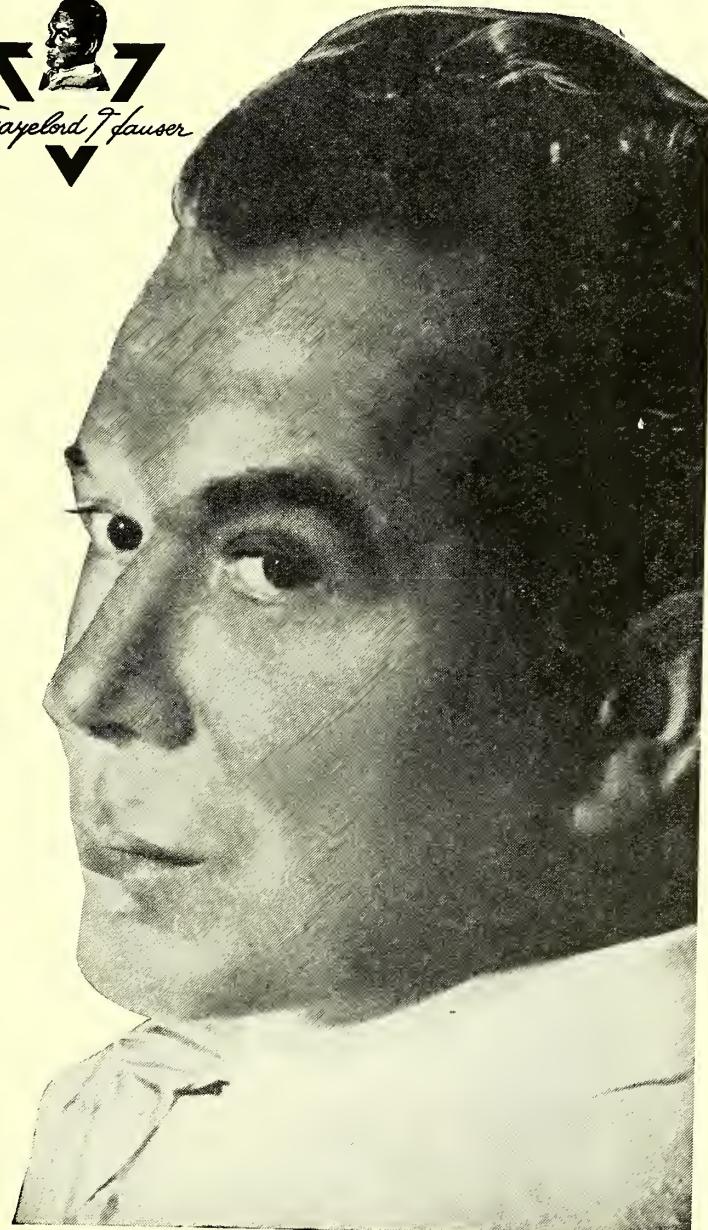


4s. 6d. per 2 lb. tin

VEGISALT



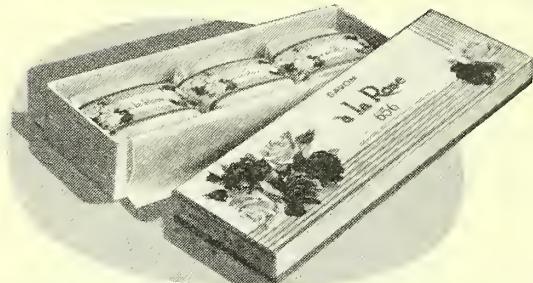
2s. 0d. per 15 oz. packet



NOVELTIES IN FINE SOAP

Specially for Christmas

-WITH AN ALL-YEAR-ROUND SALE



FLORAL TOILET SOAP No.656
Eight exquisite perfumes —
beautiful French-style Boxes
—3 wrapped tablets for 2/9.
An ideal little gift line—for
every occasion.

NURSERY RHYME MODELS
Well-moulded figures in fine
quality, long-lasting Toilet
Soap. In colourful window
cartons—to sell on sight at
any time, at only 10d. each.



SIMPLE SIMON



ROBIN HOOD

RED RIDING HOOD

Gerard

Christmas Lists on request, or our travellers will gladly call
GERARD BROS. LTD., THE SOAP WORKS, NOTTINGHAM

*Increase your
"NET" PROFITS
this Xmas!*



Two delightful little gift packs which will sell on sight. Top—a heavy type Slumber Net in delightful Christmas decorated cellophane envelope; packed one dozen in the Christmas box as illustrated.

Below—a cellophane envelope containing one chin-strap Slumber Net for night-wear, and three fine Nylon Nets for day wear (No. C.P.1); each envelope in the holly-decorated presentation box with Christmas Greetings card.

Will O'Wisp
THE LUXURY HAIR NETS

From your Wholesaler . . . or write—
SIMON, MAY & CO. LTD., NOTTINGHAM

Est. 1849





EMOLAN HAND CREAM

to keep the skin smooth and supple

This new hand cream is specially formulated to counteract the harsh effects of modern cleansing preparations. Bland, non-staining, pleasantly perfumed, EMOLAN replaces the natural fats essential for smooth and supple skin; & the name of Evans Medical ensures the superb quality of the product.

PACKAGING AND DISPLAY

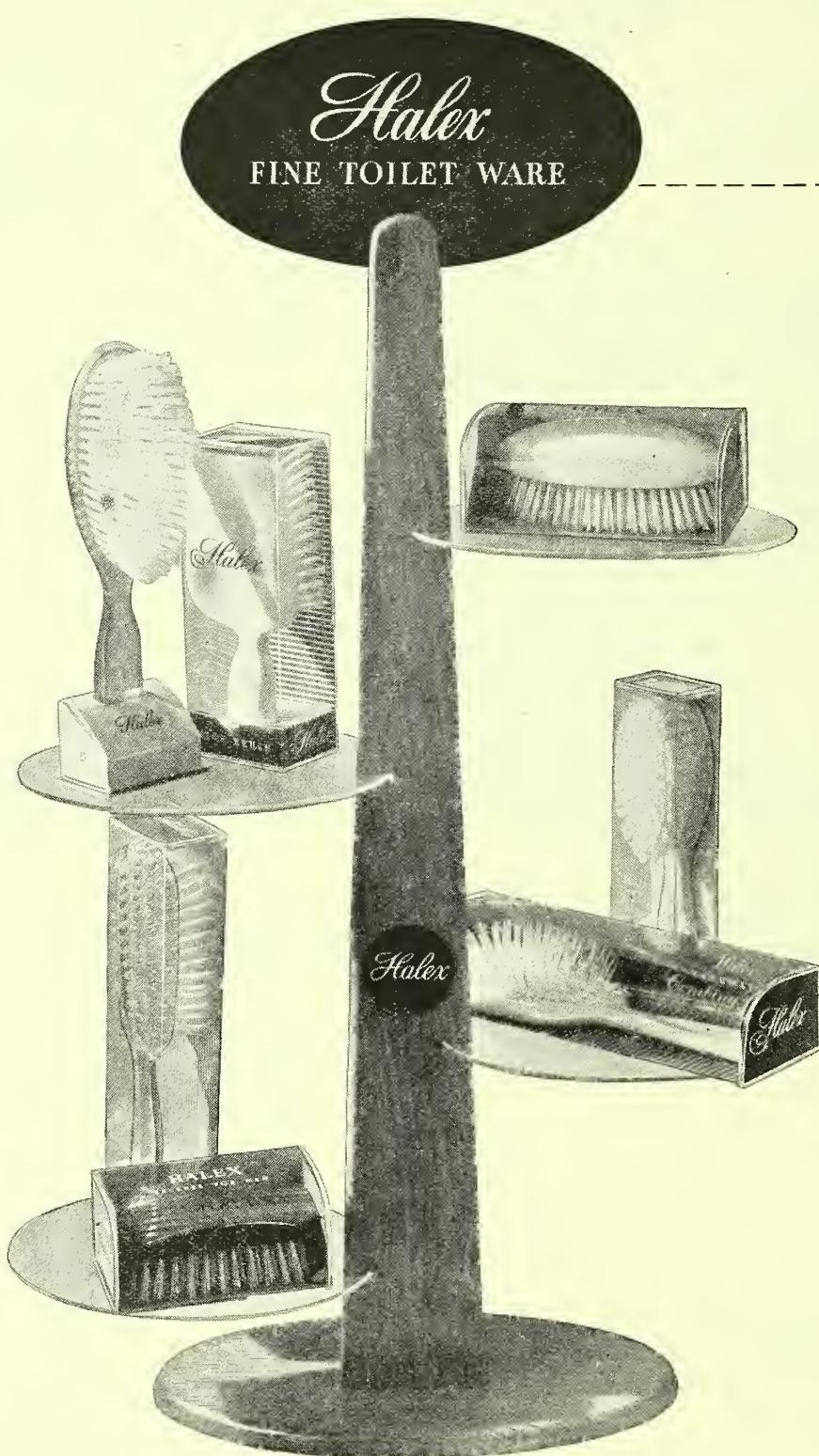
Emolan is issued in attractive tubes, and handsome display outers are provided with quantities of one dozen.

RETAILS AT 2 10d. PER TUBE—
WHOLESALE IS - PER DOZEN PLUS 75c. TAX

*EMOLAN counteracts wind exposure
and dryness of the skin*



EVANS MEDICAL SUPPLIES LTD · LIVERPOOL AND LONDON



HALEX

puts profit on a pedestal!

This magnificent display stand is extremely practical. It is a permanent piece of equipment, an absolute *must* for your counter or window, enabling you to display a good range of HALEX Fine Toilet Ware in the smallest possible space. Strong, easy to use, easy to keep clean, easy to re-stock — it gives a clear view of the goods on it from all angles.

FREE with your order for 2 dozen Halex brushes! This order can be made up in any way you like from the comprehensive range of Halex brushware, details of which were given in the folder describing the stand. If you haven't seen a copy, *please write to us or your supplier right away.*

and at Christmas...

a few strands of tinsel, some leaves, and some berries, and the stand becomes an elegant Christmas tree, sparkling with gifts — for Him, for Her, and for Baby too!

All these gifts are illustrated, described, and priced in this year's Christmas brochure. Make sure you've had your copy — if not, please ask us or your supplier for one without delay.

It will help you plan your Christmas.

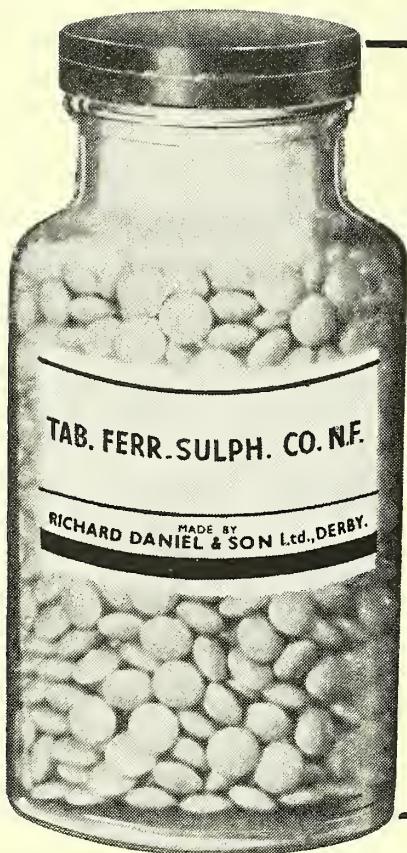


HALEX

(*a Division of the British Xylonite Co. Ltd.*)

HIGHAMS PARK, LONDON, E.4

SHOWROOMS: LONDON: 9 CONDUIT STREET, W.1 . MANCHESTER: 7 PALL MALL, MANCHESTER 2



TABLETS of QUALITY

*Manufactured by
modern machinery
under skilled supervision*

Quotations for large or small quantities

RICHARD DANIEL & SON LTD
MANUFACTURING CHEMISTS

MANSFIELD ROAD **DERBY** TEL. 48266 (4 lines)
AND AT GROSVENOR STREET, ASHTON-U-LYNE. TEL. 2816 (3 lines)

From the Carnegie Range of Fine Chemicals

PODOPHYLLOTOXIN

CARNEGIES OF WELWYN LTD

Telegrams: 'CARNEGIES, WELWYN GARDEN CITY'

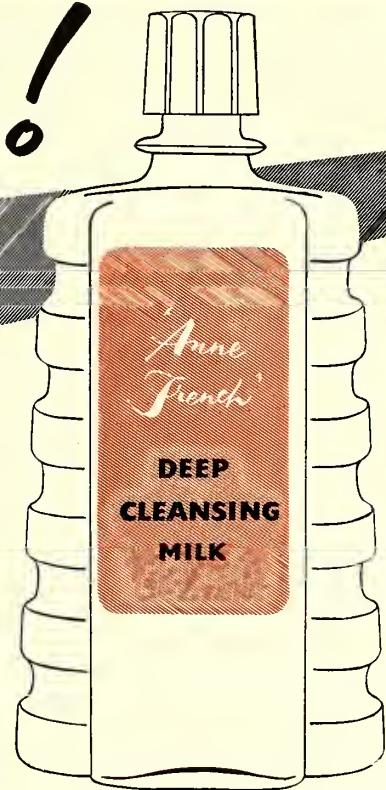
Telephone: WELWYN GARDEN 5001
(6 lines)

Here it is!

THE NEW 'small-size'

'Anne French'

DEEP CLEANSING MILK



retailing at 1/11

Already Anne French Deep Cleansing Milk, retailing at 3/7 and 7/6, outsells every other cleansing milk on the market. Now a tremendous new market is being opened up, for this 1/11 size is within the reach of every woman's purse.

This fact has been proved conclusively by tests in a large number of key shops, where the results have been spectacular. The 1/11 Anne French is just what the customer wants . . . inexpensive, really effective and just right for the handbag.

The new Anne French advertising campaign has already pushed sales up by nearly 50%, and it is now being still further increased. Don't miss this grand opportunity for increased profits. To make sure of getting your share

Trade terms:

1/11 size 10/8 doz. plus Purchase Tax 8/-.

3/7 size 20/- doz. , , 15/-.

7/6 size 42/- doz. , , 31/6.

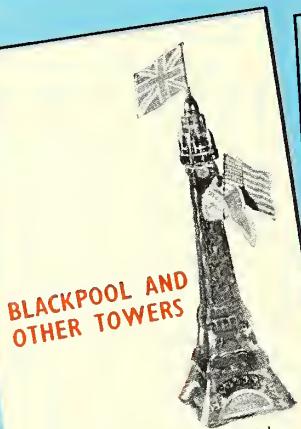
SEND YOUR ORDER NOW!

FASTEST SELLING NOVELTIES

DISPLAYS THAT SELL ON SIGHT

Nikki de Paris perfume novelties have proved themselves the fastest selling lines in the perfumery trade. Now a new and bigger range by top line designers in Paris, New York and the major centres of the world, joins the ranks of the established favourites. With their amazingly low prices they'll have a stronger appeal than ever. Put them on your counters, in your windows. Watch them pull in the customers!

Steady sales and good profits mean good business! Send for samples today—and see the latest beautiful finishes in bright shining colours used on these novelties.



BLACKPOOL AND OTHER TOWERS

Eau de Cologne & Old English Lavender in a perfume bottle shaped like Blackpool's famous tower, with Union Jack, Stars and Stripes or French Tricolour flags. Reaches new heights in novelty appeal.

Prices: 26/- doz. wholesale (+ 75% P.T.)
4/11 each retail (inc. P.T.)



FLORAL BARROW

Gilded wheelbarrow with flowers in four assorted bright colours! Eau de Cologne and Old English Lavender. With or without tassel. Watch it wheel in the customers!

Prices: 20/9 doz. wholesale (+ 75% P.T.)
3/11 each retail (inc. P.T.)



BELL AND BARREL

Eau de Cologne and Old English Lavender in attractive bell and barrel-shaped bottles. In four colours: Apple green, fuschia red, pastel blue and gold.

Prices: 17/3 doz. wholesale (+ 75% P.T.)
3/3 each retail (inc. P.T.)



THE LAMPS OF LONDON

Single and double gaily coloured model lamps holding bottles of genuine French perfumes. A new novelty line with a glowing future!

Prices: (Double) 39/- doz. wholesale (+ 75% P.T.) 7/6 each retail (inc. P.T.)
(Single) 25/8 doz. wholesale (+ 75% P.T.) 4/11 each retail (inc. P.T.)



LUCKY BOOT

A beautifully moulded and gilded "good luck" emblem, containing Eau de Cologne and old English Lavender. The ladies will 'get a kick out of this' novelty!

Prices: 20/9 doz. wholesale (+ 75% P.T.)
3/11 each retail (inc. P.T.)



SMALL POSY BASKET

Eau de Cologne and Old English Lavender and Devon Violet perfume in a new coloured posy basket, in golden finish or pastel shades. A sure sales winner.

Prices: 26/- doz. wholesale (+ 75% P.T.)
4/11 each retail (inc. P.T.)

9



BOW BELLS

A set of three bell-shaped bottles in assorted colours, and tied with gaily coloured ribbon—packed in an attractive box. Eau de Cologne and Old English Lavender.

Prices: 52/- doz. wholesale (+ 75% P.T.)
9/9 each retail (inc. P.T.)

10



THE "THREE GRACES OF PARIS"

Three delicate French perfumes "Gardenia", "Bouquet" and "Suivie" by Nikki de Paris. A beautiful gift women will love to own.

Prices: 26/- doz. wholesale (+ 75% P.T.)
4/11 each retail (inc. P.T.)

11



CUTTY SARK

Eau de Cologne and Old English Lavender in a new "Ship-shape" golden bottle, with cap and crosses in red. A delightful novelty and a lovely ornament on any dressing table.

Prices: 20/9 doz. wholesale (+ 75% P.T.)
3/11 each retail (inc. P.T.)

12



JEWELLED PERFUME STICKS

Sparkling gold case, jewelled with coloured stones, containing a generous phial of Gardenia or Lily of the Valley perfume. A beautiful addition to every ladies' handbag.

Prices: 31/6 doz. wholesale (+ 75% P.T.)
5/11 each retail (inc. P.T.)



Cold-pressed
ALMOND OIL
AND
APRICOT KERNEL OIL

Expressed at our Wharf Road works without the use of heat, these pure oils are the finest available and have for many years been specialities of the house.



*May we send you
Samples*



STAFFORD ALLEN & SONS LTD. Wharf Rd. London, N.1 CLErkenwell 1000

TAS/AL438

New

FIRST
SAFE AND EFFECTIVE
INTRAMUSCULAR IRON

BENGER LABORATORIES, who introduced the first intravenous iron preparation, now present a new and equally effective iron complex for intramuscular administration. ITS NAME IS IMFERON. The introduction of this new compound considerably simplifies the control of iron deficiency anaemias in both hospital and general practice. *Note these advantages . . .*

★ **Imferon** is the first safe and effective iron preparation for intramuscular injection—equally suitable for general practice and hospital use.

★ **Imferon** is well tolerated. Reactions of the kind which have been reported with saccharated oxide of iron have not been observed.

★ **Imferon** produces a haemoglobin response identical with that obtained by saccharated oxide of iron. The response is thus predictable.

★ **Imferon** provides the equivalent of 250 m.g. of iron per 5 ml. injection; fewer injections are therefore necessary to administer the calculated total dose.

AMPOULES 2 ml. (100 mg. Fe.) boxes 10 and 100. AMPOULES 5 ml. (250 mg. Fe.) boxes 5 and 50.
Fully-descriptive literature on request. A Technical Information Service is at your disposal.

Imferon

TRADE MAR

Iron-Dextran Complex

A PRODUCT OF

BENGER

RESEARCH

BENGER LABORATORIES LIMITED · HOLMES CHAPEL · C H E S H I R E

Calgon

WATER SOFTENER

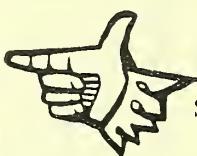
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ADDITIONAL TURNOVER

because it is
an entirely different
type of product

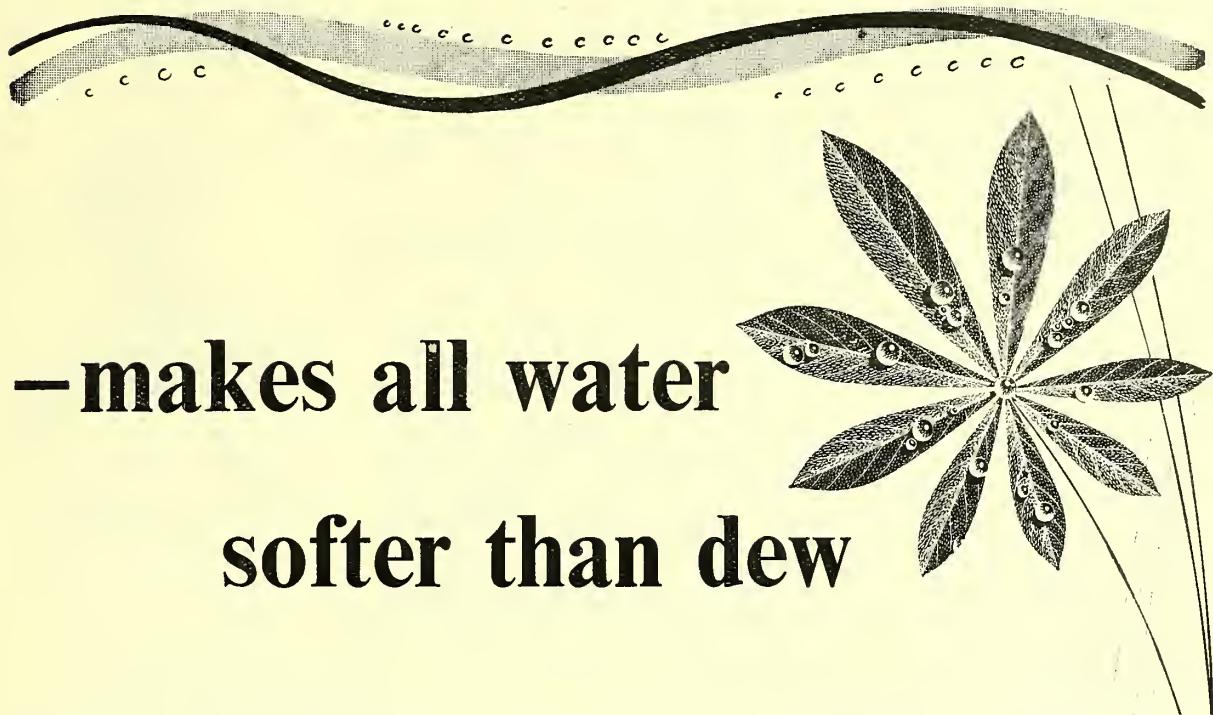


Not a soap powder—not a detergent—but a water softening powder for all washing water in the home.

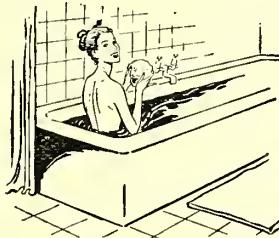


Sold in three sizes **2/9, 9/6 and 45/-**





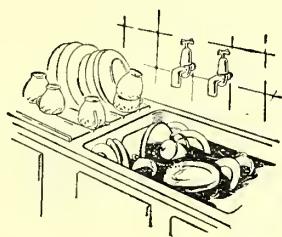
**Soft water for babies' nappies
and clothes.** Completely removes
all limesoap leaving the material
beautifully clean and wonderfully soft.



Soft water for the bath
Makes bath water silky and luxurious.

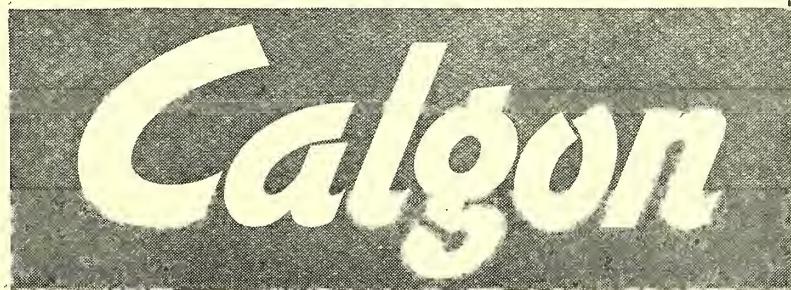


Soft water for home laundering
Specially recommended by domestic
washing machine manufacturers.



Soft water for washing up
Makes washing up almost a pleasure.

**Soft water in fact,
for ALL washing and cleaning in the home.**



... provides excellent repeat business, is backed by steady advertising
in Radio Times and leading Home Magazines.

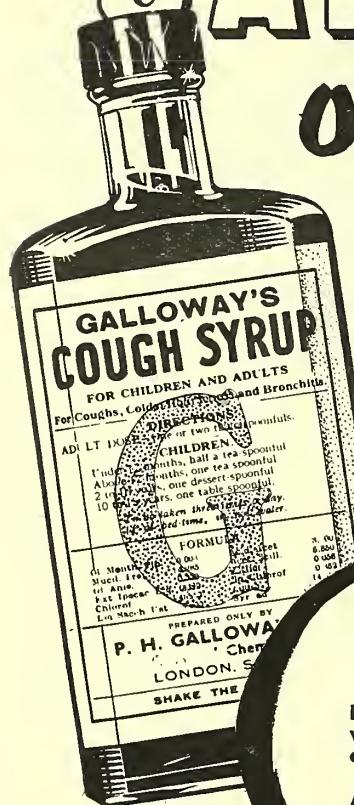
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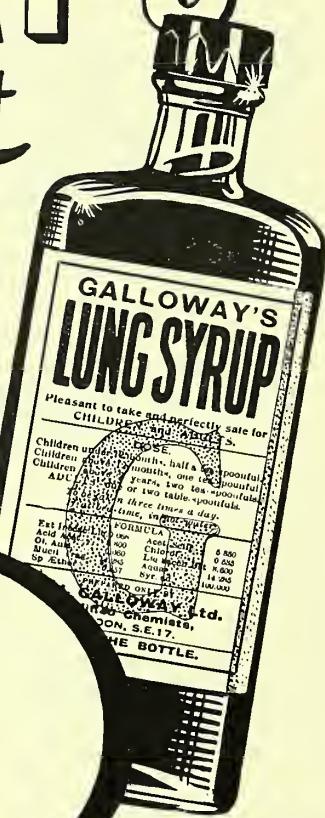
TBW 431

GALLOWAY'S

on the best of terms



**LAST WEEK
OF
BONUS OFFER**



TERMS

10%

Discount on orders
value £4 or over,
excluding Pur. Tax.

7½%

Discount on orders
value less than £4
excluding Pur. Tax

**ALL ORDERS MUST BE FOR A
MINIMUM TOTAL OF 6 DOZEN**

(Made up in any proportion)

This Special Bonus Offer
is for orders received not
later than September 30th.

Now's the time to build up your stocks —
on the most advantageous terms — in readiness
for the extra demand that will inevitably follow
the greatly extended National Advertising.

Backed by an
intensive National
advertising campaign
from October to March.

Leading National and Evening newspapers . . .
WOMAN, with its 7,659,000 readership . . . London
Transport vehicles . . . all will carry the compelling
advertising for GALLOWAY'S—the tried and
trusted remedy for all the family!

POST NOW FOR SPECIAL BONUS OFFER

COUGH SYRUP

..... doz. 1/-	Size @	7/4 doz.
..... " 1/8½ "	" @	13/4 "
..... " 3/5 "	" @	26/8 "

LUNG SYRUP

..... doz. 1/-	Size @	7/4 doz.
..... " 1/9½ "	" @	14/- "

ALL SUBJECT TO 25% P. TAX

To : P. H. GALLOWAY LTD. (Manufacturing Chemists)
LONDON, S.E.17

From :

NAME

(BLOCK LETTERS PLEASE)

ADDRESS

DISPENSER DOUBLES DEMAND

Ayrton's best-selling Antiseptic Cream sells even faster with this eye-taking Dispenser to create extra demand.

The Dispenser takes so little space it can go right to the front of the counter—and while it aids selling, it discourages pilfering.

**Available on request with orders
for six dozen small tins**

AYRTON'S ANTISEPTIC CREAM

Medium tins 5/- per dozen
(gross lots 4/10 per dozen)
plus tax 25%. Retail 10d.

Large tins 9/3 per dozen
(gross lots 9/- per dozen)
plus tax 25%. Retail 1/6.



AYRTON SAUNDERS
& CO. LTD
HANOVER STREET · LIVERPOOL
Telephone Royal 8282

INSULIN ZINC SUSPENSION (Amorphous) A.B.

INSULIN ZINC SUSPENSION (Crystalline) A.B.

NEW STRENGTHS

The need has become apparent for higher strengths of Insulin Zinc Suspension (Crystalline) and Insulin Zinc Suspension (Amorphous). To meet this need the manufacturers of A.B. Insulins are undertaking production of vials of 80 units per c.c. in addition to the 40 units per c.c. strength at present available.



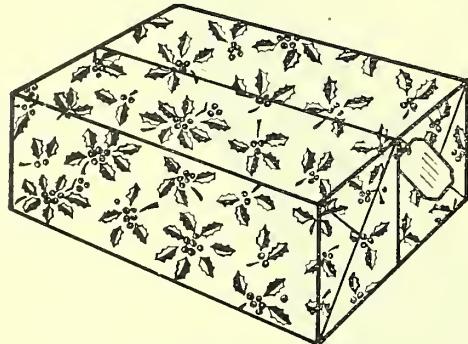
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Joint Licensees and Manufacturers

ALLEN & HANBURY'S LTD
LONDON E.2

THE BRITISH DRUG HOUSES LTD
LONDON N.1

GET READY FOR THE CHRISTMAS TRADE AND PLACE YOUR ORDER NOW FOR



WRAPPING PAPER ROBIN DESIGN

Printed in three colours on white sulphite.
With printed slogan, "Christmas Greetings."

Size of Sheet 20"×30"

REAM	...	...	...	41/-
144 SHEETS	...	...	...	12/9
72 SHEETS	...	...	...	6/8

ATTRACTIVE Christmas WRAPPING PAPER and COUNTER SATCHEL

COUNTER SATCHEL

BELL AND LANTERN DESIGN

Printed in three colours on bleached kraft paper.
Size, 5"×7"×9½"

1000	5000
20/-	19/6 per 1000

Wrapping papers and satchels are among the 140 lines in our Dispensing Sundries Discount Scheme.

Display Papers. We also offer a wide range of display papers. These, with our full range of wrapping papers suitable for the Christmas trade, display stands, etc., are shown in our special Christmas eight-page folder which will be sent on request.

MAKE YOURSELF A GIFT of the new Dexit Display Tool Outfit! This useful outfit, assembled from the best quality tools, will help you with your Christmas window dressing and displays.

Price £3 11s. 6d.



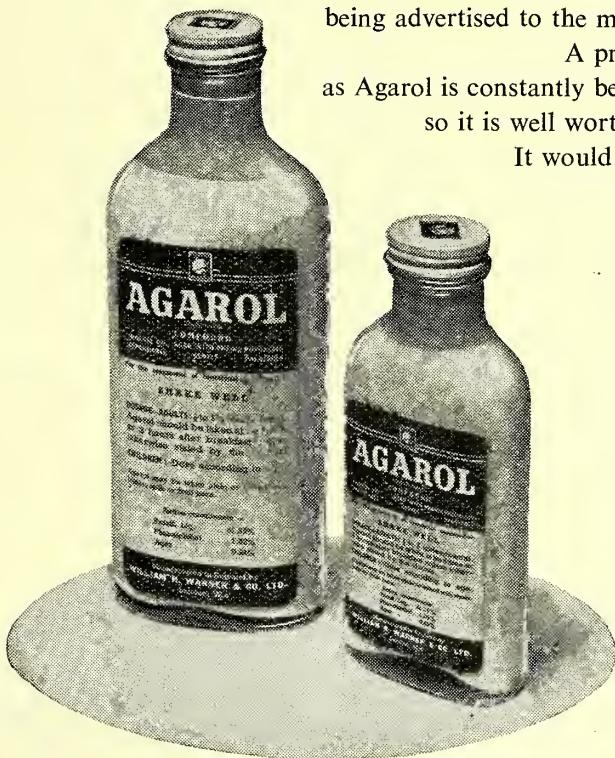
Distinctive new label for AGAROL

The new Agarol label is designed for easy identification by you and your customer. It will aid your quick recognition of the product on the shelf and attract your customer's attention to this excellent laxative.

Like all Warner products Agarol is strictly ethical, being advertised to the medical and allied professions only.

A product as effective and well-known as Agarol is constantly being recommended and prescribed, so it is well worth your while having it on display.

It would be wise to check your stocks now and be sure they are high enough to meet any demand.



*There has been
no change in the
Agarol formula
or method of manufacture.*

AGAROL

is supplied in 6 and 14 oz. bottles at 3/7d. and 7/2d. each, P.T. inclusive; list prices 27/- and 54/- per dozen respectively, exclusive of P.T.
Agarol is also supplied to chemists in 80 oz. bottles for dispensing only at 19/6d. each, free of P.T.

WILLIAM R. WARNER & CO. LTD., POWER ROAD, LONDON W.4.

Clinical tests*

prove the power of

Aluminium Glycinate—

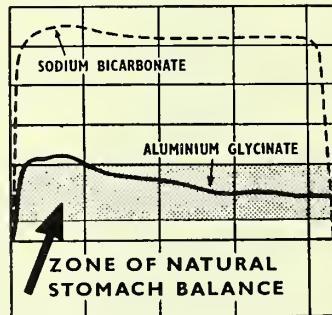
the new antacid that restores natural stomach balance

Aluminium Glycinate actually has the power to restore the stomach to its natural digestive balance. This remarkable performance has not only been proved by laboratory tests (see chart) but also confirmed in *clinical tests*.*

Patients suffering with excess acidity were given the recommended dosage of Aluminium Glycinate and in all cases the hyperacidity was corrected and its accompanying pain was relieved.

Furthermore, having restored the patient's stomach to its natural digestive balance, the Aluminium Glycinate then went on to maintain that vital balance—give "follow-through protection".

Laboratory comparison of Aluminium Glycinate and Bicarbonate of Soda.



Aluminium Glycinate is now available in New Macleans Tablets and New Macleans Powder.

Retail prices : New Macleans Powder 3/6. New Macleans Tablets 1/3 and 3/6.

* The Practitioner, July 1954.



New Macleans Powder and Tablets

with Aluminium Glycinate



MACLEANS LTD., GREAT WEST ROAD, BRENTFORD, MIDDLESEX

You'll

sell

more

Field's

this

Christmas

In their festive gift wrappings, Field's Buckingham lavender products are pretty enough to hang on a Christmas tree! Put them temptingly in your window, on your counter, and see how eagerly they sell!



TRAVEL KIT contains two tablets of lavender soap and six lavender bath cubes. 27/9 per doz.
Retail, 4/5.



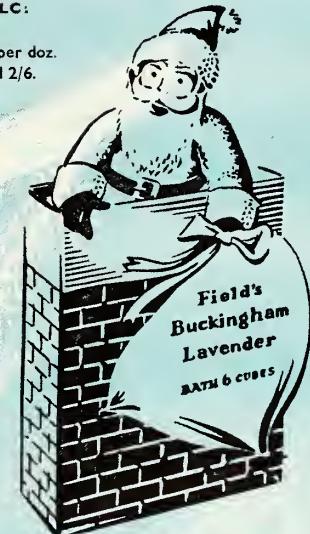
SALLY SOAP: has detachable teddy bear. 9/6 per doz.
Retail 1/3.



SOLDIER SOAP:
has removable plastic helmet and rifle.
9/6 per doz.
Retail 1/3.



LAVENDER TALC:
in gay Christmas wrapping. 13/6 per doz.
Retail 2/6.

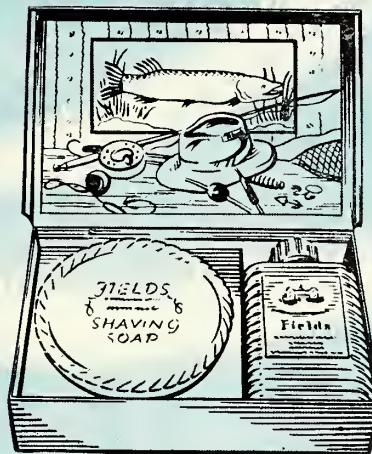


CHRISTMAS CHIMNEY:
six lavender bath cubes
14/9 per doz.
Retail 2/9.



BUCKINGHAM LAVENDER COFFRETS
Lavender Talc and two lavender perfumed soap tablets.
28/6 per doz.
Retail 4/6.

or lavender talc and six fragrant lavender bath cubes.
28/3 per doz.
Retail 5/3.



COUNTRYMAN COFFRET:
bowl of shaving soap and bottle of brilliantine or after-shave lotion.
44/6 per doz.
Retail 7/-.

Enticing profits

37,372,442 of these advertisements will be seen by 88,528,005 readers between *Mid November & Mid December.*

These gifts in colourful, exciting new packaging will provide the answer to Christmas Present problems.

Last year's advertising produced *Big* results—this year's will be even more *Potent*. All this means *Better Business and Bigger Profits.*

DELAVELLE ADVERTISING WILL APPEAR IN THESE BIG CIRCULATION PUBLICATIONS:

DAILY EXPRESS

DAILY MAIL

DAILY MIRROR

NEWS OF THE WORLD

WOMAN

WOMAN'S OWN

REVEILLE

WOMAN'S ILLUSTRATED

DAILY HERALD

NEWS CHRONICLE

PICTURE POST

GLASGOW BULLETIN

within your reach !

**Watch for this half page
in the Daily Mirror, 15th December.**

"within-your-reach" gifts

Gay, enticing

PAGODA NOVELTY
Delavelle's newest novelty, the exotic Oriental Pagoda, beautifully modelled in burnished gilt and containing an elegant bottle of the fragrant Blue Orchid perfume. 8/-

GIFT COFFRET
Smick cologne, hand cream, talcum powder and soap—all spiced with a dash of their kindred fragrance, Blue Orchid. 12/-

BATH-TIME COFFRET
Six bath cubes and refreshing talcum powder—all exquisitely perfumed with Blue Orchid. 5/-

“RAMA” NOVELTY
Another intriguing Delavelle novelty—the handsome gilt elephant carrying a bottle of fascinating Blue Orchid perfume. 7/-

Delavelle **BLUE ORCHID**

See the Blue Orchid range of Christmas gifts in these delightful new packs at best chemists, stores and beauty counters everywhere
DELADELLE 35 OLD BOND STREET • LONDON • W.1

Delavelle

BLUE ORCHID

PERFUME LUXURIES

Write for price list to : DELAVELLE • 38-46 ORSMAN ROAD • LONDON • N.1



larger
tube
lower
price

Corvette Brushless — in the extra
big tube — is due for an extra big sales
boost! Look out for the
special advertising — the new
window and counter displays
for brushless are available NOW.

Anton

Corvette

B R U S H L E S S

now only 2'⁶



When did you last make broth for your baby?

When you're busy, it's hard to spare time to make the nourishing broths that you know your baby should have. But, fortunately, you can buy Heinz Bone and Vegetable Broth all ready made. And it is full of goodness. What's more, because it's ready in a moment you have time to give baby this nourishment often. Be wise — get some Heinz Strained Bone and Vegetable Broth for your baby to-day.

For a FREE book on baby feeding, write to Dept. X.25, H. J. Heinz Company Ltd., London, N.W.10.

57 HEINZ Strained Foods
Meat Broths, Soups, Vegetables, Fruits, Cereal: Each 7½d.

Advertising

SELLS 17 VARIETIES

EVERY ADVERTISEMENT in Heinz great new campaign works hard for you.

Advertising consolidates *demand*. And demand means sales. Heinz new advertising continues to stress the theme of varied meals for babies, and more and more mothers are giving their babies early mixed diets.

New demand! Greater demand! Bigger and bigger sales! Mothers want all 17 varieties of Heinz Strained Foods. When they ask, can you supply the demand?

Watch the advertising. Watch your growing sales. Stock, display and sell Heinz Strained Foods.

H. J. HEINZ COMPANY LTD., HARLESDEN, LONDON, N.W.10



THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

The weekly newspaper for pharmacy and all sections of the drug, pharmaceutical and fine chemical, cosmetic, and allied industries

Official organ of the Pharmaceutical Society of Ireland and the Pharmaceutical Society of Northern Ireland

Volume 162 September 25, 1954 No. 3892

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Phone: Midland 2921

GLASGOW: 24 Dixon Road, S.2. LEEDS, 16: 32 Wynford Rise,
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ANNUAL SUBSCRIPTION, which includes The Chemist and Druggist Diary and Year Book, £2. Single copies one shilling each.



That the Diabetic may lead a *full* life . . .

The range of 'Wellcome' brand Insulins is designed to meet the needs of any diabetic person. It comprises—

Insulin, 20, 40 and 80 units per c.c., each in bottles of 5 and 10 c.c.

Globin Insulin (with Zinc), 40 and 80 units per c.c., each in bottles of 5 c.c.

Protamine Zinc Insulin, 40 units per c.c., in bottles of 5 and 10 c.c., 80 units per c.c., in bottles of 5 c.c.

Isophane Insulin (N.P.H.), 40 and 80 units per c.c., each in bottles of 10 c.c.

Insulin Zinc Suspension—Lente, 40 and 80 units per c.c., each in bottles of 10 c.c.

Insulin Zinc Suspension (Amorphous)—Semilente, 40 and 80 units per c.c., each in bottles of 10 c.c.

Insulin Zinc Suspension (Crystalline)—Ultralente, 40 units per c.c., in bottles of 10 c.c.

'WELLCOME' BRAND INSULINS

are made in Great Britain



BURROUGHS WELLCOME & CO. (THE WELLCOME FOUNDATION LTD.) LONDON



The CHEMIST AND DRUGGIST

Volume 162

SEPTEMBER 25, 1954

No. 3892

Doctor-order Sorting

FOR SPECIFIED CHEMISTS FROM OCTOBER

CHEMIST-contractors in many areas in England and Wales are being asked to sort their prescriptions, BEGINNING WITH THOSE DISPENSED IN OCTOBER, into doctor-order. Their prescriptions will be priced in full. The new arrangements will enable the Joint Pricing Committee to decide whether sorting into doctor-order speeds up pricing and to produce prescribing statistics.

In addition to contractors who have already been notified to sort and submit their N.H.S. prescriptions into doctor-order every month, all contractors in the areas specified are being required to do so for prescriptions dispensed in October, November and December 1945 and January 1955 only. A revised invoice form containing detailed particulars on how the sorting is to be done and how the prescriptions are to be submitted is being issued by the Executive Councils to the contractors concerned as early as possible in October. Other contractors must continue to sort on the present S and A bundle basis until further notice.

BRITISH STANDARDS Institution's annual report

THE annual report of the British Standards Institution for the year ended March 31 runs to a total of 200 pages and provides an impression of the comprehensive range of industries which use the B.S.I. facilities to prepare agreed standards for their products and services. Reports on the standards projects undertaken and completed during the year under review by some sixty major industries occupy the largest single section of the book. They include a record of several thousands of items of "work in hand"—standards projects which are in various stages of development, from the initial idea to the preparation of new or revised drafts. The first section of the book deals with a variety of general subjects, including research, Anglo-American terminology, consumer goods, publicity and finance. A page of statistics indicates the continuing growth in B.S.I.'s activities on behalf of industry. The number of new and revised standards issued during the year to March 31 was 286, as compared with 260 in the preceding year, and copies of British Standards sold reached 914,000 as compared with 872,000. Of that total about a quarter are sold overseas. Subscribing members of the

Institution now exceed 8,000, their contributions in the year totalling over £110,000. New standards were prepared for nine fine chemicals and a further eight are under consideration. The report adds that it has been decided to abandon the preparation of a standard for gum tragacanth "as there seems no prospect of reaching agreement on the viscosity test which is perhaps the most important test for its assessment."

ANTIOXIDANTS Committee's recommendations

A REVISED report presented to the food standards committee of the Ministry of Food by its preservatives subcommittee makes recommendations about the use in foods of antioxidants. The revised report replaces an earlier report on the subject by the subcommittee (see *C. & D.*, June 20, 1953, p. 653, and June 27, 1953, p. 677). Since the earlier report the subcommittee has reviewed the representations of trade and other interests.

The present report which has been endorsed by the food standards committee proposes that the Public Health (Preservatives, etc., in Food) Regulations should be amended to give effect to the revised recommendations. In its report the subcommittee points out that doubt exists whether use of antioxidants in foods would infringe the Public Health (Preservatives, etc., in Food) Regulations. It suggests that that use, under strict control, in foods liable to oxidative rancidity is desirable, and mentions that the use of antioxidants in foods is permitted in some other countries which may export foods so treated to Britain. The subcommittee recommends that antioxidants should be confined to foods liable to oxidative rancidity and should not be added to any foods other than to edible oils and fats and to essential oils, to which it should be permissible to add the following substances: Propyl, octyl or dodecyl gallate, or any mixture thereof, to edible

oils and fats in quantities not exceeding 0·01 per cent., and to essential oils, not exceeding 0·1 per cent.; butylated hydroxyanisole, to edible oils and fats not exceeding 0·01 per cent., and to essential oils, not exceeding 0·1 per cent.; butylated hydroxyanisole (up to 0·02 per cent.) may be used in conjunction with the gallates (up to 0·01 per cent.) in edible oils and fats; in the case of essential oils the total amount of antioxidant or mixture of antioxidants should not exceed 0·1 per cent. For the purposes of the recommendations the term "edible oils and fats" covers animal, vegetable and fish oils, whether hardened or not, vitamin oils and concentrates, and products consisting essentially of fat such as margarine, shredded suet, etc., but not including butter; and the term "essential oils" includes their flavouring constituents—isolates and concentrates—but not flavouring essences. The subcommittee finally recommend that the permissive addition of antioxidants to foods should be reviewed and, if necessary, amended in the light of experiences after a period of two years. Further representations which interested parties may wish to make should be sent to the Assistant Secretary, Food Standards and Labelling Division, Ministry of Food, Great Westminster House, Horseferry Road, London, S.W.1, and not later than November 30. Copies of the report may be obtained from H.M. Stationery Office, York House, Kingsway, London, W.C.2 (price 6d., plus postage).

DETECTION OF CANCER Chemical method described

A NEW method of detecting cancer was described by Dr. G. Beck, University of Berne, at a symposium on analytical chemistry at Birmingham University recently. It is claimed that cancer can be detected at an earlier stage than by other means, and that



RETIREMENT PRESENTATION : On the occasion of his retirement from the position of field manager for Parke, Davis & Co., Ltd., in the Irish Republic, Mr. C. H. Fielding was recently presented with a radio set from his colleagues on the representative staff.

the technique is fairly simple. Though results were encouraging, Dr. Beck said he was not yet satisfied and many more experiments were needed to perfect the method.

MORE DOCTORS And more even distribution

In its report for 1953, published recently, the Medical Practices Committee for England and Wales states that the number of principals on medical lists in 1954 was 19,423 (18,584 in 1953) and the number of registered patients 42,400,000 (against 42 millions). The percentage increase in number of principals was 4·5 per cent. The average number of patients per principal at the beginning of the year was 2,260 and at its close 2,183, a drop of 3·4 per cent. The increase in the number of principals had been largely where they were most needed and in many areas had been up to 10 per cent. In areas where earlier reports of Executive Councils had shown the average lists to be high, the number of principals had risen by the end of 1953, to 7,889, thus reducing the average lists to 2,525 (against 7,397 principals with average lists of 2,869 at the beginning of 1952). The distribution of general practitioners throughout the country had become more balanced not only because of an increase in the number of principals in "under-doctored" areas, but also a decrease in areas where previously there had been too many.

FLASH CAMPAIGN

THE Photographic Dealers' Association is operating a new drive to educate dealers and the public in flash photography as a winter pursuit. Lecture demonstrations are being held in eight centres as follows:—

LONDON	... October 4 & 5	South Hall, Victoria Halls, Bloomsbury Square, W.C.1	Mr. K. H. Gasettine, F.R.P.S., A.I.B.P.
GLASGOW	... October 21	St. Andrew's (Berkeley Hall), Glasgow, C.3	Mr. C. K. Neale, F.R.P.S., F.R.S.A.
LEEDS	... October 21	Queens Hotel, Leeds, 1.	Dr. H. Baines, Hon. F.R.P.S.
MANCHESTER	... October 28	Houldsworth Hall, 90 Deansgate, Manchester, 3	Dr. Baines
NOTTINGHAM	... November 2	Queens Hall, Milton Street, Nottingham	Mr. Neale
WOLVERHAMPTON	... November 4	Victoria Hotel	Mr. K. MacDonnell
BRISTOL	... November 9	Corn Exchange, Bristol	Mr. Neale

Public sessions are being held at 5.15 p.m. and 9.30 p.m. on each date, with lectures at 6.30 and 8.30 p.m.

CANCER AND SMOKING

IN a memorandum in the *British Medical Journal* of September 4 DR. SIDNEY RUSS points out that the people of the United States are the largest per person cigarette-smoking people in the world, yet their lung cancer death rate is about the same as that of the people of Switzerland and Denmark who smoke about one-half of the cigarette quota of Americans. Dr. Russ goes on to say that it is a fact that people in England and Wales with lung cancer do on the whole smoke more cigarettes than control people of the same age group, but the fact that from one country to another

no relationship exists between cancer death rates and the degree of cigarette smoking seems to point to something significant. There must be some other factor or factors at work. If cigarette smoking is responsible for the majority of deaths from lung cancer, how is it that people in the U.S.A., who smoke about 30 per cent, more cigarettes than do people in England and Wales, show a death rate from lung cancer (1950) less than half of the rate in England and Wales, he asks. Dr. Harry Stalker in a letter published in the *British Medical Journal* of September 18 suggests that the points raised by Dr. Russ can be explained by a difference in smoking habits. In the United States many people discard cigarettes half smoked. The tarry components of cigarette smoke which may well contain the carcinogenic agents, condense partially in the stub, and suggests Dr. Stalker, a high concentration of carcinogens is absorbed from the "fag-ends." In the same issue Dr. Paul Glees (of the University Laboratory of Physiology, Oxford) also suggests that the sale of cigarettes is no indication of the amount of cigarettes actually smoked.

D.D. AUTHORITY RESTORED

THE Home Secretary has restored to Mr. Joseph Anatole France Tobin, M.R.C.S., L.R.C.P., from September 18, authority to be in possession of, to supply or to give prescriptions for Dangerous Drugs. It was withdrawn from him in July, 1943.

RESTORED TO REGISTER

THE name of Mr. Jack Michael Sinclair, M.R.C.S., L.R.C.P., has been restored to the Medical Register as from July 14 and not as previously stated.

MR. W. P. EWART, M.P.S.N.I., who is the present vice-president of the Society, is in business in Scotch Street, Armagh. He was co-opted to the Council as one of the provincial members in 1949 and was re-elected a member in 1951.

MR. JOHN McGREGOR, M.P.S.N.I., 30 Botanic Avenue, Belfast, was first elected to the Council in 1936, and was president of the Society in 1947. He is a pharmaceutical member of the Northern Ireland General Health Services Board.

MR. GEORGE E. McILHAGGER, M.P.S.N.I., 90 Duncain Gardens, Belfast, is deputy chief pharmacist of the Royal Victoria Hospital Group Pharmacy. He is chairman of the Associates' Section of the Ulster Chemists' Association, and a member of the Ulster Chemists' Association joint council.

MR. EDWARD G. MACKLE, M.P.S.N.I., is the manager of a chemists' and opticians' business in Newry, co. Down. He was chairman of the Associates' Section, Ulster Chemists' Association, for two years, and has been a committee member since 1944.

MR. WALTER C. TATE, M.P.S.N.I., principal of Tate's Medical Hall, Royal Avenue, Belfast, has been a member of the Council of the Society for twenty-one years. He was president of the Society in 1938, and is the son of a former president.

HOSPITAL ECONOMY

THE finance committee of the Northern Ireland Hospitals Authority has ordered an inquiry to discover the best method of ensuring "strict economy" in the purchase and use of drugs in hospitals, with special reference to proprietary medicines. It has also asked to be advised of any heavy overspending on drugs and dressings by any hospital management committees. At the September meeting of the Authority it was reported that expenditure on drugs, dressings, appliances, etc., in the four months ended July 31 was £165,759. That exceeded the estimate for the period by £14,092.



ANNIVERSARY PRESENTATIONS : At the thirtieth anniversary party of Coty (England), Ltd., recently, Mr. C. C. Valli (managing director) was presented by Miss Flora Honywood (a co-director) with a cigarette box on behalf of persons in the company who have served twenty-five years or over. The box was inscribed with their signatures. At the party, all men and women employees who had served twenty-five or more years with the company received a gold watch and £1 per year of service. Many had actually served with Mr. Valli for the whole thirty years. Factory, office and sales staff were all represented.

IRISH NEWS COUNCIL ELECTION

A CONTEST is promised in the 1954 election to fill the four vacancies on the Council of the Pharmaceutical Society of Northern Ireland. When nominations closed on September 20 five names had been received. Seeking re-election are three of the four retiring members, Messrs. W. P. Ewart, Armagh, John McGregor and Walter C. Tate. Mr. H. H. Cowzer is not seeking re-election. The other nominations are Messrs. George E. McIlhagger and Edward G. Mackle. The result of the election is being declared at the annual meeting of the Society on October 4. Biographical notes on the candidates are given in the next column.



Mr. J. Caldwell (captain, Ulster Chemists' Bowling Association) receiving from Mr. S. T. McRoy (Northern Ireland representative, Rexall Drug Co., Ltd.) the Rexall cup presented for the annual competition between the Ulster bowlers and the Scottish Chemists' Bowls Association. Winners of the 1954 competition were the Scottish team, whose names have been inscribed on the cup.

NEWS IN BRIEF

YOUNG men who reach the age of eighteen between October 1 and December 31 were required to register for National Service on September 18.

A TUBULAR steel footbridge has been erected by Bradley and Bliss, Ltd., Reading, across the River Kennet, to connect their old premises with recently acquired new ones.

AT August 17, the official index figure, which measures changes in the average level of retail prices compared with the level at the base date, June 17, 1947 (taken as 100), was 144, compared with 145 at July 13.

SPORT

SOUTH LONDON AND SURREY PHARMACISTS' GOLFING SOCIETY, at Purley Downs golf club on September 1, Bogey competition. Winner: J. Owen (Continental Laboratories, Ltd.), all square. Other leading scorers were: F. C. Andrews, 4 down (better score on last nine holes); M. Lewis, 4 down. The visitor's prize was won by R. Penton (2 up).

MANCHESTER PHARMACEUTICAL GOLFING SOCIETY at Sandiway golf club on September 1. Competition for the Avlon trophy presented by Imperial Chemical (Pharmaceuticals), Ltd. Winner: G. Morgan-Evans (captain).



TOPICAL REFLECTIONS

By Xrayser

Conference Chairman's Address

I have read the address of Dr. Harold Davis to the Conference at Oxford, and I have also read your leader dealing with the subject matter. It is impossible to endorse too emphatically your last sentence, in which you say: "It may profit many to study what he said in order to make deductions about the things that were left unsaid." The whole address warrants careful examination and much reflection, for while it is true that Dr. Davis was at pains to emphasise that what he had to say was his own personal opinion and not to be construed in any way as official comment or policy, it would be foolish to disregard the fact that the very nature of his position with the Ministry is such that his personal views carry weight in official circles. We can accept the facts and figures of official statistics but when Dr. Davis makes observations and suggestions, we do well to exercise criticism. For example, in referring to the status of the individual pharmacist in hospital (p. 279) he says that he would like to see the pharmacist develop more and more along the lines of the technologist, with technicians suitably trained and qualified to do much of the routine dispensing. It is not long since the Conference disposed of that one, or one very like it. On the other hand, with an inquiry into remuneration pending, it is reassuring to find an appreciation of the ever-increasing problem of proprietaries, especially the many which "represent needless multiplications of a common theme . . . and (whose) presence on the chemist-contractor's shelves is often a source of financial embarrassment." As Mr. Trillwood said, in proposing a vote of thanks, the highest achievement of a conference chairman's address is to get people talking. Dr. Davis has succeeded in that.

Education

Dr Davis need not have apologised for his excursion into the realms of education. Apart from the fact that he had teaching experience, it is open to anyone to criticise educational policy. We all do it. The ideal curriculum for a profession whose requirements are changing so rapidly, is difficult to formulate. Developments in the past twenty years, accelerated by war, have been so wide and so varied that the whole structure cannot be kept in focus. Yet, as you suggest in your editorial (p. 281) some modification is called for if we are to produce an adaptable general practitioner. Though the craftsman's skill may be less in evidence today, the need for an understanding of what is being handled is paramount, and skill and knowledge remain the attributes which together make up the trained pharmacist. But with all the new subjects and the new products, there cannot have been very much at fault in the fundamentals which were taught thirty or forty years ago, for pharmacists who qualified then have been able to keep abreast of modern discoveries and to take their proper place in the National Health Service. There may be a lesson in that.

Digitalis

The continued interest in *Digitalis purpurea* (and other varieties) is shown by the fact that the Science Sessions this year included two papers dealing with the tincture—one on the assay and the other on the effect of deteriorative changes during storage (p. 287). It may be that the tincture will return to favour, but in certain parts of the country it is now a rarity. Though the plant was in the London Pharmacopoeia so long ago as 1650, the first serious investigation into its virtues was not until 1785, when Dr. Withering published his account of a drug which he had been studying for ten years. The celebrated Professor Cullen said that the work should be in the hands of every practitioner of physic. Our scientists of 1954 would be interested to learn that a contemporary account advises that "the unskilful must not meddle with Fox-glove."

BUSINESS CHANGES

THE telephone number of British Filters, Ltd., Maidenhead, Berks, is being changed to Maidenhead 4144 on November 1.

MR. L. J. WHITE, M.P.S., is taking over the pharmacy of Mr. C. Kaye, M.P.S., F.B.O.A., Church Street, Market Deeping, Northants, on October 4. Mr. Kaye, however, intends to continue his optical practice at that address.

Appointments

CHILTON ELECTRIC PRODUCTS, LTD., Hungerford, Berks, have appointed Mr. Edmond Theobald their new sales executive for dry shavers for the London area.

IMPERIAL CHEMICAL INDUSTRIES, LTD., have appointed Mr. B. W. Galvin Wright their publicity controller from October 1 in succession to Mr. Sidney Rogerson, who will relinquish that office on September 30, in anticipation of his retirement from the company's service on December 31.

NEW COMPANIES

P.C.—Private Company; R.O.—Registered Office

HAILSHAM CHEMISTS, LTD. (P.C.)—Capital £10,000. To carry on the business of dispensing chemists, etc. Directors: George Oxley, M.P.S., Phyllis E. Oxley, Sidney H. Frank, M.P.S., and Minnie H. Frank. R.O.: 21 Gildredge Road, Eastbourne.

WHITCROFT CHEMICALS, LTD. (P.C.)—Capital £100. To carry on the business of manufacturers and dealers in chemicals, disinfectants, solvents, etc. Directors: Clare C. Cole and Beryl M. Cole. R.O.: Sweden House, 13 Stratford Place, London, W.1.

G. H. LANGLEY (PHARMACY), LTD. (P.C.)—Capital £4,000. To carry on the business of manufacturing and retail chemists, etc. Directors: Ellen M. Langley, Phyllis E. Wills and William H. Davies, M.P.S., 26 Station Lane, Hornchurch, Essex.

PEST CONTROL (IRELAND), LTD. (P.C.)—Registered in Dublin. Capital £100. To carry on the business of chemists, druggists, drysalters, etc. Subscribers: Godfrey M. Goodbody, 4 Appian Way, Dublin, and George N. Snaresy. The directors are not named.

COLLINGS & DAVIS, LTD. (P.C.)—Capital £100. To carry on the business of manufacturers of and dealers in optical products, chemists' sundries, soaps and detergents, etc. Directors: Geoffrey S. d'A. Collings and Reginald J. P. Davis. R.O.: 85 Walton Street, London, S.W.3.

Company News

Previous year's figures in parentheses

SANGERS, LTD.—Group trading profit for year ended February 28 was £406,641 (£472,360) and with other income the total is £433,196 (£481,213). Depreciation is £28,319 (£25,194) and taxation, £202,133 (£215,812) making net profit, £137,984 (£163,964). Total dividend recommended is 27½ per cent. (same).

LEGAL REPORT

Spirit Licence Infringement

At Old Street, London, magistrates' court, on September 16, The British Drug Houses, Ltd., Graham Street, N.1, were fined a total of £30 for infringing their petroleum spirit licence. The fines were £5, with £5 5s. costs, for keeping more than 700 gall. of petroleum spirit at Wharf Road; £10 for not keeping it in an approved building; and £15 for having the flame of a welding torch within 20 ft. of a place where petroleum spirit was kept. The offences were admitted. An inspector of the local Council found twenty 50-gall. containers in a small yard between two buildings on the site. Under the licence not more than 700 gall. could be kept at any one time and only in specified buildings. A letter from the company said that the mixture was a by-product and had hitherto been purified by distillation. At the time the barrels were found, they were awaiting stencilling and collection. There had been considerable delay on the part of the purchaser in collecting, and the quantity that had accumulated was greater than could be kept in the store. The company expressed unqualified regret at what had happened. The directors took a strict view of the need for compliance in such matters and had given stringent instructions to the staff. There had been "a slip-up," but a tightening-up internally would ensure that such a thing did not happen again.

DEATHS

BROWN.—On September 8, Mr. Angus Brown, M.P.S., 69 Neilston Road, Paisley, Renfrews. Mr. Brown qualified in 1908.

DUNCAN.—On May 9, Mr. Howat Duncan, M.P.S., 42 Addison Place, Arbroath, Angus, aged seventy-six.

DUNN.—At the Victoria Hospital, Swindon, Wilts, on September 10, Mr. George Edwin Dunn, M.P.S., The Pharmacy, Market Place, Highworth, Swindon. Mr. Dunn qualified in 1914.

GREEN.—In Cosham Hospital, recently, Mr. Leonard Alfred Green, M.P.S., 1 Ashley Hill, Bris'ol, 6, aged sixty-four. Mr. Green is survived by his widow and two daughters.

MANGAN.—Suddenly, on September 13, Mr. James Francis Mangan, managing director, West African Drug Company, Ltd., 19 Stanley Street, Liverpool.

RUOFF.—At St. Mary's Hospital, Portsmouth, on September 12, Mr. Francis Hermann Ruoff, M.P.S., 57 Chichester Road, North End, Portsmouth. Mr. Ruoff qualified in 1899.

Mr. A. G. Bradburn, M.P.S., F.S.M.C., writes: The passing of Mr. Ruoff signifies to Portsmouth pharmacists something deeper than the remembrance of one who for twenty-one years served them well; it also marks the end of a tradition that F. H. Ruoff was inevitably the authority to consult for a ruling on any knotty problem where a question of tradition, precedence, or pharmaceutical law was in-

volved. Recognition of his long service to his fellow pharmacists was accorded to him at the Portsmouth Branch dinner in 1946 when he decided to relinquish his secretarial duties. He then foresaw the great changes in pharmaceutical life that post-war development would bring about, necessitating a subdivision of the labour of promoting and co-ordinating the activities of the various organisations essential to the vigorous health of a local "body pharmaceutical," and during his recent illness he expressed gratification that he had lived long enough to see the voluntary services he had so freely given for so long being zestfully shared and expanded by the younger generation of pharmacists. The relinquishing of his secretarial duties enabled him to continue his pharmaceutical representation in the Portsmouth health services, thus maintaining an unbroken record of service from 1916, first on the old N.H.I. Committee, and continuing with the N.H.S. Executive Council, under which he also served as chairman of the Ophthalmic Committee. It was in 1916, too, that he "temporarily" undertook the secretaryship of the Portsmouth Chemists' Association, of which he was a founder member in 1909 and continued in that office, which expanded to embrace the additional labours of secretary of the Branches of the Pharmaceutical Society, National Pharmaceutical Union, Proprietary Articles Trade Association, and of the Local Pharmaceutical Committee. It was not until 1951 that he occupied the presidential chair of the Association, when he was, appropriately, the first recipient of the new presidential chain of office. Mr. Ruoff was one of "the old school," starting in business fifty years ago in London Road, Portsmouth, and later removing to Chichester Road. His down-to-earth philosophy and repugnance of hypocrisy and insincerity gave a sardonic and sometimes cynical twist to his sense of humour, but there was never malice or unkindness in his deflation of pomposity, nor did his aversion to sentimentality ever effect his appreciation of true sentiment. Perhaps that explains why his memory will be one of affectionate regard by all who knew him, and the feeling of loss which the death of an old friend always leaves behind.

Mr. Norman L. Banks (secretary of the Portsmouth Branch of the Pharmaceutical Society) writes: Mr. Ruoff's work for pharmacists and pharmacy in Portsmouth was of the highest order and is keenly appreciated. The tribute by Mr. Bradburn is well merited.

MARRIAGE

DUFFY — BARRETT.—At St. Thomas' Church, Riddrie, Glasgow, on September 8, Andrew Lawrence Duffy, M.P.S., 8 Dochart Street, Glasgow, E.1, to Janet (Netta) Barrett, 35 Longford Street, Glasgow, E.1.

Diamond Wedding

HOGG—BROWN.—At Glasgow, on August 24, 1894, Richard Hogg, M.P.S., to Matilda Brown. Present address:—11 Gower Terrace, Dumbreck, Glasgow, S.1.



SOCIAL EVENTS AND SPORT

Stratford Theatre Visit

ALL the stalls at the Shakespeare Memorial Theatre, Stratford-on-Avon, and many other seats in the theatre as well, were occupied on the evening of September 15 by members of the Conference, who saw Glen Byam Shaw's production of "Romeo and Juliet." After "high tea" at 5 p.m. coach-loads of visitors left the hotels and colleges at 6 p.m. for the journey, lasting more than an hour, through the Cotswold villages via Woodstock and Enstone to Stratford. Laurence Harvey, in a moving performance as the ill-fated Romeo, and Zena Walker, a credibly and delightfully thirteen-year-old Juliet, played to a packed house, no one who had not previously booked being able to obtain a seat on the night. There was a noticeable stir among the pharmaceutical section of the audience when Peter Duguid's tattered apothecary made his appearance, and no doubt many were surprised at his straitened circumstances, in view of the reckless abandon with which he sold lethal poisons and kept no record of the transactions.

Cotswold Village Excursion

NEARLY five hundred members attended the Conference excursion "Cotswold Villages" on the afternoon of September 16. The party was taken by motor-coaches over roads some of which have existed since Roman times, through the typical grey stone villages with their low dry-stone walls between houses and fields, to Cheltenham. The route was along the valley of the Windrush river, through such villages as Minster Lovell, with its old ruined manor house, the small town of Burford, whose church is one of the famous Cotswold "wool" churches, built during the sixteenth century, through Bourton-on-the-Water, thence to Northleach and so to Cheltenham, where members were received by the mayor of Cheltenham (Councillor A. W. Mann) and by Mr. W. A. Cleverly (vice-chairman of the Cheltenham Branch of the Pharmaceutical Society) and entertained to tea at the Civic Centre. In a speech of welcome, THE MAYOR said it was a pity that the Conference members were not there for a week. Should the Conference meet at Cheltenham, it would receive a very hearty welcome. Cheltenham was known as a conference town and had much to offer visitors, including beautiful streets and a grand town hall. He would be pleased to welcome the Conference at some future date. DR. H. DAVIS (chairman of the Conference), replying, said that the mayor's presence that afternoon was a tribute not only to the Conference but to the pharmacists of Cheltenham. He was "not such a bad mayor, as mayors go," and he had given a masterly display of patience in waiting twenty-five minutes for the president to arrive. [The coach

in which the president (Mr. E. A. Brocklehurst) was travelling had arrived almost half-an-hour later than the appointed time.] Dr. Davis thanked the mayor on behalf of every member of the Conference and said that the second meeting of the Conference which he attended had been in Cheltenham in 1928, and he hoped that not many years would have passed before they returned to "that fair town." During tea, each lady member of the Conference was presented with a copy of a charming guide-book to the Cotswolds, entitled "The Cotswolds, an Introduction" by Kenneth H. Green, with drawings by Gerald Gardiner, A.R.C.A. The books were presented by the directors of the United Chemists Associated, Ltd. The party returned via Stow, Charlbury and Woodstock.

Conference Ball

MAKING their third visit in a week to Oxford's town hall, members attended the Conference Ball there on the evening of September 17 when they could, as their chairman had suggested earlier in the day, say their goodbyes "appropriately." The members were taken by coach to the town hall where they were received by the president and chairman of the Conference (Mr. E. A. Brocklehurst and Dr. H. Davis) and their ladies.

During the evening presentations were made by Dr. Davis to the local committee and to the winners of the sports trophies. To Mr. W. R. Smart (chairman) and his wife he presented a silver vase; to Mr. F. W. Footner (treasurer) and his wife, a silver salver; and to "last but not least, that great hunk of humanity." Mr. T. Roy Hardy

(secretary) and his wife, a silver cigarette box. Dr. Davis said that words could not express the admiration that he had for the work that Mr. Hardy had done for the Conference. Despite all the harassment there was "still that wonderful smile." Dr. Davis also expressed his thanks to every member of the local committee and to all the local pharmacists who had worked so hard to make the week such a memorable one for all.

New Chairman Invested

At the conclusion of the ball, Dr. Davis invested the newly elected chairman (Professor J. P. Todd) with the badge of office and in return was presented by Professor Todd with a replica of the chairman's badge.

Dancing continued until 1 a.m. and before returning to their hotels or colleges, the guests were thoughtfully provided with soup and rolls before being conveyed back for their last (and rather brief) night of a week among Oxford's "dreaming spires."

Sport

The following sports trophies were presented by Dr. Davis:—

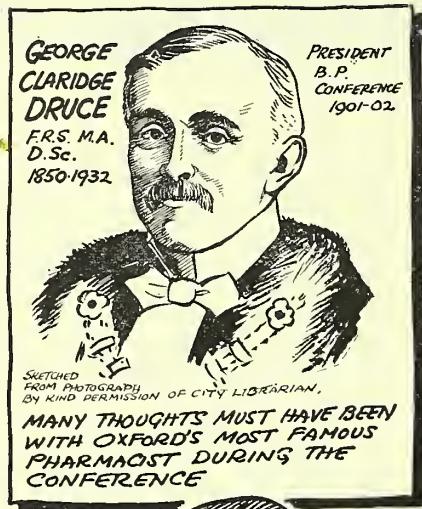
Golf.—Edmund White trophy: Winner: Mr. M. Costello (president, Pharmaceutical Society of Ireland). Runner-up: Mr. A. H. Newcombe. Best scratch score: Mr. A. H. Newcombe.

Tennis.—Jephcott cups: Winners: *Ladies'*, Miss B. Wilson, *Men*, Mr. O. H. N. Davenport. Runners-up: Tie between Miss M. Lees and Mr. A. Pirrie; Miss C. E. Ashcroft and Mr. S. G. Bubb; and Miss P. M. Randall and Mr. A. M. Randall. Prize awarded to Miss Lees and Mr. Pirrie after draw by Mrs. H. Davis.

Bowl.—London Challenge Cup: Winners: Scotland, skip, Mr. W. Spence Culbert.



CIVIC WELCOME: The mayor of Cheltenham received Conference members at the civic centre when the Conference excursion visited the town. Left to right: Dr. H. Davis (Conference chairman), Mrs. Davis, Mr. T. Roy Hardy (secretary, Conference local committee), the mayor of Cheltenham (Councillor A. W. Mann), Mr. W. R. Smart (chairman, Conference local committee), Mrs. Brocklehurst, Mr. H. G. Rolfe (Conference senior general secretary), Mr. E. A. Brocklehurst (president of the Conference), and Mr. F. W. Adams (registrar of the Pharmaceutical Society).



91st BRITISH PHARMACEUTICAL CONFERENCE

OXFORD

CHAIRMAN OF THE
CONFERENCE
DR. H. DAVIS, C.B.E.

PRESIDENT OF THE
CONFERENCE

**E. A.
BROCKLEHURST**
PRES. PHARMACEUTICAL
SOCIETY OF GB. BRITAIN

ALDERMAN
J. A. DEACON
LIFE PRESIDENT
LOCAL BRANCH
COMMITTEE

W. R. SMART
CHAIRMAN
LOCAL
COMMITTEE
TOOK PART
IN THE
LONDON CHALLENGE
CUP FOR BOWLS
COMPETITION

CHIEF GUEST—
G. E. GODBER, D.M.
DEPUTY CHIEF MEDICAL OFFICER
M.O.H.

"SHOPPING
IN
OXFORD"
MASEFIELD
"THE MAN FROM
THE MINISTRY"
M.O.H.

MRS. BROCKLEHURST

"IF HE LOOKED LIKE
YOUR CARICATURE
I'D NEVER HAVE
MARRIED HIM..."

"RETAIL PHARMACISTS
ARE THE SALT OF THE
EARTH... BUT SOME OF
THE SALT MAY HAVE LOST
ITS SAVOUR"—

W. TRILLWOOD
DIRECTOR OF
PHARMACEUTICAL
SERVICES | OXFORD

JUDY

T. ROY HARDY
SECRETARY, LOCAL
COMMITTEE

"STILL THAT WONDERFUL
SMILE"—DR. DAVIS

OXFORD
TO B.P.
CONFERENCE
FROM
B.P. CONF.

PROFESSOR
A. D. MACDONALD
IN ONE
PLACE
TWICE

MANCHESTER
UNIVERSITY

STILL A BACHELOR!
DESPITE REPORTS!

E. F. HERSENT,
B.PHARM., PH.D.
HON. GENERAL SECRETARY
OF THE CONFERENCE

**IMPRESSIONS' BY "C+D" ARTIST at the
SESSIONS, BANQUET ETC.**



British Pharmaceutical Conference, Oxford, 1954



CLOSING SESSION

AT the closing session of the British Pharmaceutical Conference on September 17 THE CHAIRMAN said that there was still a pleasant evening to look forward to when "good-byes" could be said more appropriately. He then invited Mr. M. Costello (president of the Pharmaceutical Society of Ireland) to propose a vote of thanks to the local committee. Mr. COSTELLO coupled with the vote of thanks the name of Alderman J. A. Deacon (life president of the local Branch of the Pharmaceutical Society) who "but for an accident of birth would have made a first-rate Irishman." Their hosts of the past week had put a lot of work into the organisation and should be thanked most heartily.

MR. S. HUGHAN seconded.

MR. W. R. SMART (chairman of the local committee) accepted from THE CHAIRMAN the traditional gift to the local Branch from the Bell and Hills fund. It took the form of an ivory gavel. The vote of thanks was then accorded with acclamation.

MR. SMART said that the gavel would be used regularly and members would treasure it. He thanked Messrs. Costello and Hughan for the kindly way in which they had proposed the vote of thanks. For their counsel and kindness to the local committee he thanked Mr. H. G. Rolfe; Dr. E. F. Hersant and Mr. H. Treves-Brown. He also acknowledged the work of Miss B. A. Whiteside.

MR. H. TREVES-BROWN read the treasurer's report. The report showed that during the year ended December 31, 1953, the Executive had purchased replicas of the chairman's badge with the result that there was an excess of expenditure over income amounting to £70. The accumulated fund on Decem-

ber 31, 1953, amounted to £1,744. Mr. Treves-Brown moved the adoption of the report and THE PRESIDENT (Mr. E. A. Brocklehurst) seconded. The report was adopted.

MR. H. G. ROLFE (senior general secretary) read the annual report. The report showed that twenty-three members had taken advantage of the offer of the Pharmaceutical Society to assist younger members to attend the Conference. The London local committee had donated £250 to be used primarily to provide a fund from which loans might be made to local committees for use when commencing arrangements for the entertainment of the Conference. Invitations for future meetings of the Conference had been provisionally accepted as follows: 1956, from the Pharmaceutical Society of Ireland to meet in Dublin; 1957, from the Bristol and District Branch to meet in Bristol; 1958, from the Sheffield and District Branch to meet in Sheffield. Nominations of officers for 1954-55 included the following changes:—Chairman: Professor J. P. Todd; A Vice-chairman: Dr. H. Davis. Other members of the Executive: Drs. D. C. Garratt and W. Mitchell.

DR. G. R. BOYES, proposing the adoption of the report and election of the officers nominated, congratulated the secretaries upon its brevity. He recalled that Professor Todd was the first professor of pharmacy in Great Britain and had been associated with the teaching of pharmacy for thirty-two years and seventeen days.

DR. J. G. DARE, seconding, said that Drs. Garratt and Mitchell had done a great deal as contributors both of papers and to the discussions at the science sessions of the Conference.

The motion was carried.

PROFESSOR TODD, replying, said that he was proud to be elected chairman in that great University City of Oxford. The next Conference would be held in Aberdeen which was also a city with an ancient university. He was pleased that as chairman his foot would be on his native heath and he hoped that that would give him confidence to carry out his duties.

THE CHAIRMAN then presented a silver coffee service on behalf of the members of the Conference to Mr. Treves-Brown in recognition of his services as joint general secretary of the Conference, 1944-53. It was only over the past twelve months, said the chairman, that he had realised how much work the secretaries did. Without them he himself would have been hopelessly lost. Mr. Treves-Brown was known to all as a wonderful worker, always cheerful and always smiling.

MR. TREVES-BROWN, acknowledging the gift, said it was a wonderfully generous and beautiful present and he thanked the chairman for the typically kindly and generous words with which it had been handed over. The real people who did the work were the members of the local committee. They should have the credit. The job of the secretary was to keep the Conference on the right rails. He himself had been kept on the right rails by Mrs. Treves-Brown and Miss Whiteside. Mr. Rolfe who was not only a worker but a prodder had done a magnificent job in keeping him up to scratch.

MR. W. T. ELDER, inviting the Conference to meet in Aberdeen in 1955, said that the suggested date was from August 29. It was the week following the Edinburgh Festival and the week preceding the Braemar Highland Gathering.

MISS G. M. WATSON, Nottingham, proposed the motion accepting the invitation "to go behind the tartan curtain." DR. J. B. STENLAKE seconded.

DR. G. E. FOSTER, proposing a vote of thanks to the chairman, said that Dr. Davis had excelled. He had given one of the best opening addresses that he had heard, he had conducted the science sessions with dignity and good humour, opening each discussion with useful comments that had given confidence and encouragement to the authors. He cherished the hope that Dr. Davis would always remember Oxford for the 1954 British Pharmaceutical Conference as those who had attended the Conference would always remember Dr. Davis.

MR. E. SHOTTON, seconding, said that Dr. Davis was always enthusiastic in everything he undertook and that had led to the success of the Conference.

THE CHAIRMAN, in acknowledgment, said that the success of a Conference depended upon the contributors to the science sessions and on that occasion there had been a memorable set of papers and an enthusiastic audience at the sessions.



FROM NORTHERN IRELAND : Front row from left : Miss N. M. Robinson, Mrs. H. G. Campbell, Mrs. W. R. McNabb, Mrs. J. H. P. Giff, Mrs. H. W. Gamble, Mrs. J. McGregor. Middle row : Dr. J. H. P. Giff (member of the Northern Ireland General Health Services Board), Messrs. H. W. Gamble (a member of the Council, Pharmaceutical Society of Northern Ireland), W. P. Ewart (vice-president, Pharmaceutical Society of Northern Ireland), W. H. Boyd (president), H. G. Campbell and W. R. McNabb (a member of Council). Back row : Messrs. S. E. Campbell and J. McGregor (members of Council), and Mr. W. Gorman (secretary).

British Pharmaceutical Conference, Oxford, 1954



A Scottish group outside the Playhouse theatre just before the Symposium session on September 16.

SYMPOSIUM SESSION

OPENING the Symposium Session on tablets in the Playhouse Theatre on September 16, THE CHAIRMAN said that the subject would give rise to lively discussion. The manufacture of tablets had its scientific aspects but still required a great deal of "know-how." In dealing with all aspects of the subject the speakers would impart some of their "know-how." The most difficult aspect was probably that of dispensing and Mr. Fitch would deal with that; Mr. Burlinson with manufacture; and Mr. Denston with standardisation.

Members were able to view a small exhibition at the theatre showing a cut-out model of a tablet machine, pictures illustrating some faults that can occur in the manufacture of tablets (capping, sticking and ringing), specimen punches and dies, and tablets at various stages of coating (before coating, with sub coat added, with sugar coat, and polished).

Dispensing Aspects of Tablets

By H. D. FITCH.

[ABSTRACT]

THE Science and Art of Dispensing may seem to be disappearing with the development of pharmacists into "mere tablet-counters," but pharmacy's professional reputation depends upon maintaining proper ethical standards in dispensing. All new stock should be checked, particularly to ensure that the tablets are not broken due to excessive friability. The container and its position in the dispensary or warehouse may make or mar the appearance and efficiency of the product. The heat from a radiator, a light, or the sun may quickly cause deterioration, and so may a damp cupboard. Care

should be taken to avoid over-buying—particularly in large bulk containers—of those drugs which are sensitive to atmospheric moisture and other external conditions.

Many varieties of cardboard box or carton are available, and may be used for the majority of tablets, provided that the box chosen is strong enough to outlast the number of times the patient may have to open and close it—in other words, the larger the number of doses the stouter should be the box.

Tablets of glyceryl trinitrate, thyroid, digitalis and ascorbic acid, as well as those of the sulphonamide group—to mention some of the drugs in daily use—should be dispensed in well-closed containers, and protected from light or moisture. The patient may keep the dispensed medicine on a shelf in a steamy kitchen, or in similar unsuitable conditions, and only by use of the right type of container can the drugs be preserved in the best possible condition during the time they may be expected to be in the patient's hands.

For penicillin lozenges and tablets the ideal would be to supply in the manufacturers' original pack; but all too often the number prescribed does not tally with the original packs. Could all manufacturers agree to standardise the numbers of tablets to be packed? And would all practitioners then prescribe only those standard numbers?

The use of strip-packing for various proprietary tablets has many advantages, being satisfactory in preserving tablets in good condition and protecting young children, who would find it difficult to extract the tablets. On the other hand that packing would considerably increase the price; and the

bulkiness would be a handicap.

Sizes of tablets may vary from one batch to another, causing trouble in the dispensary. The Association of British Pharmaceutical Industry has recommended sizes for the dimensions of many of the official tablets, but it is still possible to obtain tablets from the same or different makers which may differ in size and shape and that may lead to some difficulty with technical explanations incomprehensible to a querulous patient. Trouble may occur also in the event of a test prescription because mixed batches of tablets may not comply with the official limit for deviation from mean weight.

Embossing of a sign, letters, or a name on the tablets may have advantages for the maker but those are not always shared by the dispenser.

Colourful coatings of tablets gives eye-appeal to medicines. The colours may be a means of identification but have been too tempting to young children, sometimes with fatal results. Warnings have been issued advising parents to keep those tablets out of the reach of children but that should apply to all tablets and all medicines. It is the only answer to those accidents.

The boring or laborious work of tablet counting may be reduced by the use of a simple counting device. It consists of an equilateral triangular-shaped tray. The tablets are tipped on to the tray and arranged in a triangle. By counting the number of tablets forming one side of the triangle, reference to the "key" gives the total number of tablets. Unfortunately, sugar-coated tablets slide about and pile up on the tray, and are not so readily arranged in neat rows for counting by that method.

(To be continued).

NEW PRODUCTS AND PACKS

Intramuscular Iron Preparation.—Benger Laboratories, Ltd., Holmes Chapel, Cheshire, have produced "the first safe and effective intramuscular iron." Imferon is an iron-dextran complex claimed to produce a haemoglobin response identical with that obtained from saccharated oxide of iron, but free from the reactions associated with that compound. The new product provides the equivalent of 250 mgm. of iron per 5 mils of injection. It is issued in boxes of ten and 100 2-mil and five and fifty 5-mil ampoules.

Neonatal Injection of Nalorphine.—Burroughs Wellcome & Co., 183 Euston Road, London, N.W.1, announce the issue of Lethidrone brand (neonatal) injection of nalorphine hydrobromide. The product contains 1 mgm. of nalorphine hydrobromide per c.c., and is intended for injection into the umbilical vein of the newborn to counteract the depressant effects of obstetric analgesics of a morphine-like nature, such as pethidine, to which the compound has a specific antagonism. It thus enables more adequate analgesia to be maintained to a later stage in labour without increased risk to the infant. Lethidrone (neonatal) injection is available in rubber-capped bottles of 5 c.c.

First Press-button Hair Spray.—Max Factor Hollywood & London (Sales), Ltd., 16 Old Bond Street, London, W.1, have introduced Britain's first press-button hair spray with lanolin,



Top Secret, a mist-fine spray (not a lacquer) that holds the hair invisibly in place. Far from drying the hair, Top Secret is claimed to condition hair that is inclined to dryness.

Men's Toilet Series.—Helena Rubinstein, 3 Grafton Street, London, W.1, has introduced a new series of toilet preparations for men: Prince Gourielli. The range includes after-shave lotion, talcum powder, tonic hair-groom, eau de Cologne, shaving-cream bowl and tonic shampoo. The containers are cocktail-shaker flasks. Existing agents of the company are being given first option to take up an agency for the new series. The basic order includes display stand and display

card, and advertising space is booked in *Esquire*, *Punch*, *Tatler* and selected women's magazines.

"Jet-propelled" Shaving Preparation.—A new shaving preparation, Rise, "colourfully and topically blazoned as 'pressurised' and 'jet-propelled,'" and known in the United States for several years, is now being distributed nationally in Britain by A. J. White, Ltd., 120 Coldharbour Lane, London, S.E.5. Rise is a solution of high-quality soap, impregnated with gas and packed under pressure. A touch of the push-button on the tin releases a jet of lather, ready for direct application to the wet face. No brush

is needed. Being a soft-water lather it is kind to the skin.

Skin-penetrating Anti-rheumatic.—Lloyd-Hamol, Ltd., 11 Waterloo Place, London, S.W.1, are marketing a new speciality, Thoracin, for use in the treatment of respiratory disorders. Thoracin is formulated on the principles that gave Transvasin its success in the treatment of rheumatic conditions: the effect of a counter-irritant without its skin-irritating action. Thoracin contains guaiacol furoate, an ester free from the unpleasant odour of pure guaiacol. The ester penetrates the skin and exerts its effect in the alveoli. The pack is a 1-oz. tube. Thoracin is not advertised to the public.

TRADE NOTES

In Research Quantities.—Carnegies of Welwyn, Ltd., Welwyn Garden City, Herts, announce that they are now able to supply quantities of podophyllotoxin for research purposes.

Now Tax-free.—Slimaid Products, Ltd., 36 London Street, Southport, Lancs, state that they have succeeded in getting purchase tax rescinded from Slimso chocolates. They are giving the public the full benefit of the tax exemption.

An Additional Size.—Countess hair-conditioning cream, by County Laboratories, Ltd., Honeypot Lane, Stanmore, Middlesex, is available from October 1 in a new small size containing enough for three applications. A special advertising campaign is devoted to its availability.

Change of Size.—At the request of anaesthetists and surgeons, Duncan Flockhart & Co., Ltd., 104-08 Holyrood Road, Edinburgh, 8, are replacing the 30-mil tube of Xylocaine gel, which is used for topical anaesthesia for cystoscopy and catheterisation, with a 15-mil tube.

Christmas Wrappings.—Macdonald & Son, Ltd., Hope Mills, Pollard Street, Manchester, 4, offer a variety of special wrapping papers for the Christmas seasonal trade. Chemists are invited to write for the company's special eight-page illustrated Christmas folder.

Confidence in Product Confirmed.—Evans Medical Supplies, Ltd., Speke, Liverpool, 19, state that, in response to numerous inquiries, and after considering the data obtained from their own investigations and the facts presented at the discussions at the Oxford meeting of the British Pharmaceutical Conference on the stability of solutions of ferrous gluconate, they are satisfied with the stability of their product Ferlucon elixir and are continuing to issue it.

Hauser-principle Diet Products.—Products recommended by the American dietician Gaylord Hauser are being made available to the British public for the first time by Life & Beauty, Ltd., 5 Avery Row, London, W.1. They are being launched by intensive publicity coinciding with a visit to this country by Mr. Hauser. The range comprises wheat germ, molasses, spray-

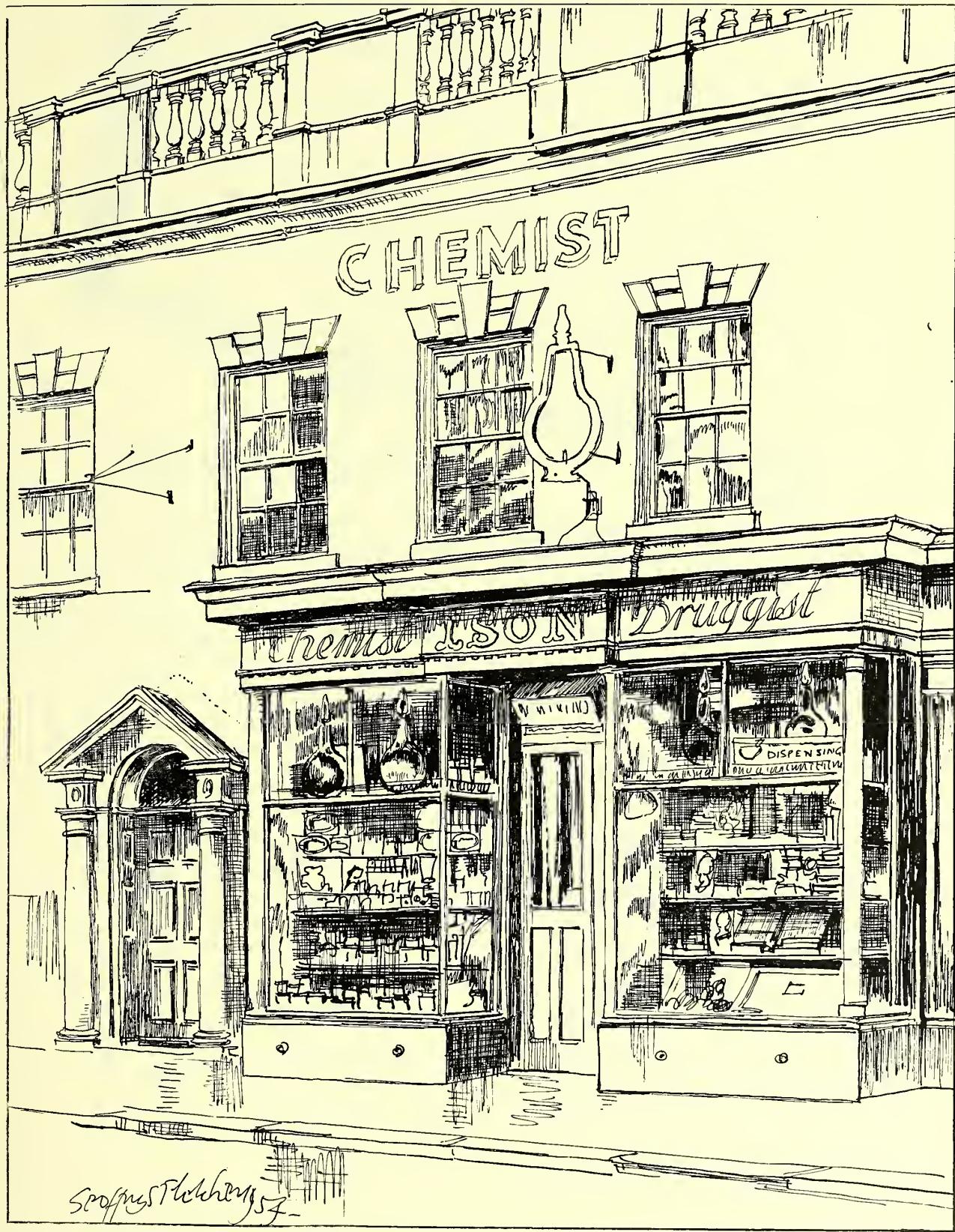
dried skim-milk powder, powdered brewer's yeast, brewer's yeast tablets and Vegisalt iodised salt and herbs. The series, already in the hands of 1,500 chemists in the London area, is being marketed exclusively through chemists, and stocks are available through trade wholesalers.

Sales Competition Results.—The Sans Egal sales competition announced in THE CHEMIST AND DRUGGIST, July 24, brought an enthusiastic response from sales assistants. Entrants were given a sample of Sans Egal and required to select five selling points in order of importance from the ten provided on a leaflet. The judges (the chairman and managing directors of Greenlys, Ltd., advertising agents) declared the result a tie for first place between Mrs. J. Hart (E. A. Lush, M.P.S., The Sherborne Pharmacy, Cheap Street, Sherborne, Dorset) and Miss E. Snudden (Co-operative Chemists (Sussex), Ltd., 101 London Road, Brighton). Mrs. Hart and Miss Snudden share the first prize of £25. The winning selection was:—Indelibility; no smudges on cigarettes, cups, etc.; economy (need not be applied as often as ordinary lipsticks); inexpensive price; wide choice of colours. Another thirty-six competitors selected the same five selling points but placed them in different order. The manufacturers, Sans Egal International (London), Ltd., have therefore increased the consolation prize money from £10 to £36, and awarded a £1 consolation prize to every one of the thirty-six. The distributors of Sans Egal are Scott & Bowne, Ltd., 50 Upper Brook Street, London, W.1.



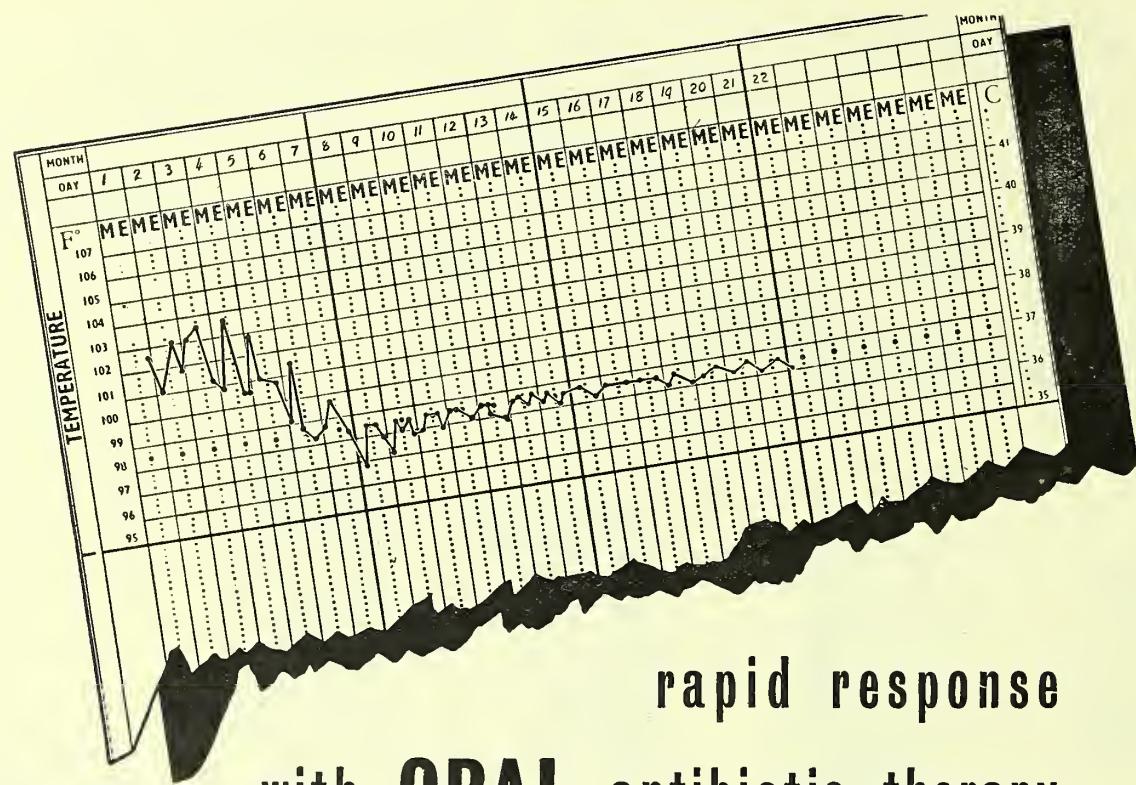
"EYE-CATCHING": Printed in "ten glowing colours," the new Glucodin showcard shown is obtainable from representatives of Glaxo Laboratories, Ltd., Greenford, Middlesex, or from the company's Greenford office.

PHARMACIES OF BRITAIN—28



ISON'S PHARMACY AT AHERSTONE, WARWICKS

THE premises of C. Edward Ison, Ltd., Atherstone, Warwickshire, present almost unchanged an early nineteenth-century shopfront in a late Georgian building. The lettering used on the fascia is characteristically early Victorian, heavily shadowed and gilded. It came into use in the 1840's to meet competition from raised letters of metal and wood.

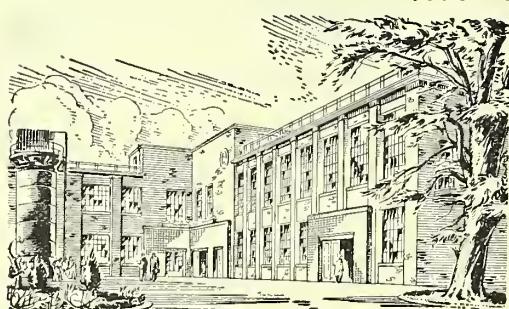


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The Right Recipe at Last?

WHAT must strike anyone reading the reports of the Branch Representatives' meeting held at Oxford on September 15 (p. 327) is that so many came with something to say, and so many were provoked into saying something. That is what such meetings are for, and should apply to them all. But it has not invariably been the case at the Conference-time meeting when, by now established custom, the topics are selected by the Council. On more than one occasion the papers presented appear to have said the last word on the subject, or else have not touched members' most vital interests at the particular time.

It would be a pity if, having discovered the magic of organising a really purposeful and worth-while discussion on a "dictated" subject, there should be any avoidable reversion to less vital meetings in future, and it may therefore be timely to try and analyse the factors that contributed to success on this occasion. In the first place there was the device, borrowed from the Symposium Session, of having three speakers on one subject, each presenting a picture of a major activity of the profession (this time manufacturing, hospital and retail). Secondly a good deal of attention had been given to the selection of the speakers. The managing director of a manufacturing house could have been tempted to "grind an axe," but Mr. Ramsay, whose knowledge of some aspects of pharmaceutical chemical manufacture from prime materials is second to none, dealt fairly and in proper proportion with the developments of the whole industry including those with which his company had no direct concern. For hospital pharmacy, Mr. Sterling was no less fair, presenting with complete impartiality issues on which controversy still centres among public pharmacists, and on which he, as pharmacist in a major London teaching hospital, might have had a point of view he could have pressed at the expense of colleagues who had different opinions. He did not do so, either in his paper, which was prepared, or in his replies, which were impromptu. His rewards are that his stature in the profession is greatly enhanced, and that a knowledge of the problems of hospital pharmacy will be better understood among, say, retail pharmacists than perhaps they have been. In Mr. Hudson the retail members of the Society had a spokesman whose range of interests is unique, enabling him to open the eyes of his colleagues to some problems of which they may hardly yet have become aware, but which will almost certainly become urgent in the future.

Finally there was the subject itself. Such a stock-taking, with its forward look from a review of events, has an obvious value to everyone. Unfortunately, perhaps, from the Council's point of view, it must think of something else next year, and we cannot at the moment present them with a sure-fire alternative. It may a year or two, even at the present fast pace of events, before a similar review is again called for. But we are satisfied that other subjects of similar promise are there for the seeking, and that the Council has this year set a precedent that, if maintained, will give the second Branch Representatives' meeting of the year a standing as high as that of the British Pharmaceutical Conference itself.

Tablet Problems

In his address as chairman of the British Pharmaceutical Conference (*C. & D.*, September 18, p. 277), Dr. Davis referred to the marked increase in the prescribing of tablets that had taken place since the inception of the National Health Service. It was therefore entirely appropriate that the Conference Symposium Session should have had tablets as its subject.

Mr. H. D. Fitch, in dealing with dispensing aspects, laid emphasis on many important points that were later to be taken up in the discussion. For example, he pointed out that pharmacy's professional reputation depended upon proper ethical standards in dispensing. As a corollary, Dr. J. G. Dare in the discussion urged the desirability of controlling the dispensing—that was the word he preferred—of such items as ferrous sulphate tablets at clinics. The "disadvantage" of tablets, he pointed out, was that anyone who could count could dispense them. Despite Dr. Dare's predilections, the term "dispense" is in our view degraded when used in such circumstances. Dispensing implies the application of knowledge. Only recently it has been clearly demonstrated in the courts that dispensing, if serious blunders are to be avoided, requires behind it a large reserve of knowledge about the products dispensed and a long experience in the practical application of that knowledge. Frequently one sees in the lay Press, and also all too often in the medical Press, complaints of the "extortionate" dispensing fees for tablets allowed under the National Health Service. Lay writers are understandably, perhaps, ignorant of the factors involved, but medical correspondents might fairly be expected not to make the mistake of, we must assume, overlooking that prescriptions often require interpretation of the writer's wishes by the reader, and that the dispenser must have a knowledge of the potential powers of destruction that lie hidden in so many drugs. Pharmacists do themselves a disservice when they entertain thoughts that they are becoming "mere tablet counters." Not the least danger in the attitude of mind is that it may lead to a lack of appreciation of the necessity of supervising all dispensing closely. Dr. Dare, of course, was advocating more realisation of responsibility and not less.

Much of the discussion at the symposium session centred on child poisonings by tablets. The verdict seemed to be that education of the public to treat all medicines with circumspection was the only answer to the problem: also an answer which, after study of all possible mechanical safeguards, asserts itself.

On the question of identifying tablets involved in

poisoning mishaps, there were advocates of duplicated N.H.S. prescriptions as there were others who favoured resort to the manufacturer or the pricing bureau. One suggestion—the use of the prescription book for N.H.S. prescriptions, will be received with no enthusiasm by the contractors, whose dispensing in many instances already makes burdensome demands on their time. If a fee were paid for the copying of each prescription, it might be possible to consider whether the staff position could be organised to adopt it, for in itself the suggestion has something to recommend it, including its assistance in accurate dispensing and in speedy reference. One suggestion that was not made was that the patient's doctor must be able to identify quickly from his records the tablet involved in a poisoning

accident. The difficulty there would often, of course, be to trace the doctor.

Dissatisfaction with *in vitro* tests for disintegration of tablets was voiced by many speakers. It must, however, be conceded that the disintegration test that is intended to be included in the B.P. Addendum is a notable step forward in achieving a satisfactory end point. As Mr. H. Hoyle said in the discussion, the present official text depends too much upon interpretation. Mr. Denston did not think that simple durability tests were amendable to description as official standards. But the fact remains that tablets that have not stood up well to the journey from factory to shop are an expensive problem for the pharmacist and it is to be hoped that some test will be developed.

CORRESPONDENCE

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

WHAT DISPLAY IS WORTH

SIR.—Mr. Goodman (C. & D., September 18, p. 382) is not quite alone in his reaction to the hand-cream "offer." I asked the maker's representative how much discount we should get for advertising their product for them, and refused to take any sampling bottles. However, I fear that Mr. Goodman and I are in a very small minority, for invariably, when I question the generosity of the "Five-pound-order-and-we-give-you-a-free-display-stand" offer, I am told that everybody is enthusiastic. It does not seem to be such a long time since we were offered extra discounts to pay for the use of our display space, and I am quite certain that our displays sell more goods than are sold in consequence of a single half-page in the morning papers. Some day the sales managers will realise this—or will they?

SUPERINTENDENT CHEMIST

CHRISTMAS GIFTS

SIR.—The Christmas shows are now on. May I have the audacity to advocate to all manufacturers of high-class toiletries that they attach price tickets on all articles (the price tickets to be quickly detachable)? Some firms do this but the great majority do not. All coffrets should have code number with perforated detachable price tag on the bottom. All high-class expensive soaps should be individually wrapped in transparent tissue and thus obviate chipping and soiling. Nothing is more harmful to soap sales than marks or chips. 3-oz. toilet soaps should be boxed in threes or more but not more than six tablets should be in any box. The box should also be suitably covered with transparent tissue; bath soaps: not more than three in a box, each individually wrapped. Labels on all perfumes, etc., should be suitably treated to make them unscratchable. Even though perfumes are boxed, if each bottle, or even the label, were transparent-wrapped, the improved results would be apparent to all. These are only suggestions by one who has watched developments and seen some disastrous results from previous years' packs. As chemists we are getting more conscious day by day that attractive and carefully priced articles suitably presented attract the attention of would-be purchasers. A final hint: few manufacturers seem to consider gifts for the teen-ager. Why?

SCOTTISH CHEMIST

IRISH PHARMACY AND ITS FUTURE

SIR.—We have read with surprise the statement issued by the president of the Pharmaceutical Society of Ireland in a recent issue of the C. & D. It is with reluctance that we find ourselves a party to any controversy with a person holding such an honoured position, but in view of the consequences of such ill-founded accusations we consider it our duty to reply. The statement, in so far as it deals with the Irish Chemists' Representative Organisation, is inaccurate and uncalled for. We would ask your readers to examine again our report, published in your August 7 issue, and to turn then to the president's criticism. The only conclusion the reader can reach is that the president, under

the stress of his many commitments, has entirely misread our report. The accusation that we have tried to mislead our fellow pharmacists and assume for ourselves unmerited credit is both serious and unjust. It comes as an opinion of the president, based on a statement purported to have been made by us and suitably arranged to suit the president's argument. Where, in our report, did we "seek to convey the impression that the official bodies in pharmacy were impotent?" Our statement was a report of the activities of I.C.R.O. and did not concern itself with the work of any other group whatsoever. The president goes on to identify us as the authors of a statement concerning Dr. Ryan and the working of the Health Act. May we point out that that comment was not made by us but by the Minister of Health (Mr. O'Higgins) in an address to the Dail on July 7? If our letter to the deputies in the Dail was quoted by the Minister and was the instrument of registering his concern on our behalf, then surely the president of the Pharmaceutical Society of Ireland should be the first to congratulate us, rather than seek to decry us before our colleagues in such an unfair manner. We maintain that any person or group of persons who can strike a blow for pharmacy at this critical hour is worthy of the encouragement and thanks of every pharmacist in the country. We scorn the suggestion that we have said or done anything to weaken or take from the work done by the members of the joint committee. Rather have we striven successfully to add fuel to the fire of their endeavours in trying to save our profession from the abyss into which it is apparently headed. May we remind our president that we are all pharmacists and that we, the younger ones, view with even greater apprehension than our older colleagues, the uncertainty of the future. Can we be blamed then for being solicitous? Are we to be condemned for trying to help ourselves?—Apparently so. The president has described our organisation as a "small coterie of unrepresentative chemists in Dublin." For his information our membership is representative of the whole Republic and has, in fact, attracted a greater following of country chemists who consider us worthy of their support and trust. In view of the unfavourable light thrown on the committee of I.C.R.O. as the result of an unjustified attack by a privileged individual and in order to uphold the noble traditions of the Pharmaceutical Society of Ireland, we trust the president will, in the near future, withdraw his remarks.

DUBLIN J. J. FLYNN, M.P.S.I., Chairman
J. P. BURKE, M.P.S.I., Acting Secretary and Treasurer
IRISH CHEMISTS' REPRESENTATIVE ORGANISATION

INFORMATION WANTED

The Editor would appreciate information about suppliers of the following items:

SKLEROZAN
ANX, gr. 5
KALZO

CASOL
PHOBACTIL
FLORICOL

CURARINE AND ALLIED COMPOUNDS

By S. J. HOPKINS, F.P.S.

A LONG interval sometimes separates the discovery of the pharmacological action of a drug from its use in clinical practice. That time-lag may be due to a wide variety of factors, such as manufacturing difficulties, lack of medical interest, or a failure to appreciate the therapeutic possibilities of the compound. Variations in quality of natural drugs, due to absence of control during collection, may also have an adverse effect on the reputation of the drug, or it may be that it is not until a new technique is evolved that the need for a certain type of compound becomes apparent. Once a need is recognised, and a natural product is found that is suitable, a period of intensive research often follows, directed towards synthesising new compounds with similar but more selective or controllable properties.

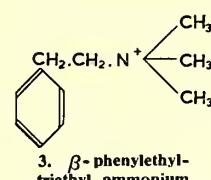
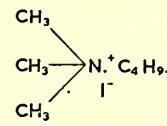
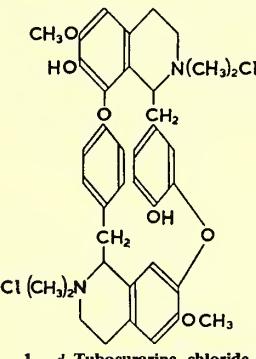
This evolutionary process is exemplified in the history of the muscle relaxants. The oldest member of this now very important group of drugs is tubocurarine, the alkaloid obtained from curare, the South American arrow poison. The existence of that arrow poison has been known for several hundred years, the first mention in English history occurring in Hakluyt's account of the voyage of Sir Walter Raleigh to South America in 1595. The nature and preparation of the poison was surrounded by mystery and superstition, which travellers' tales did nothing to remove, and it was not until 1812 that a true account of the poison was brought to Europe by Squire Waterton. That famous eccentric made a special journey to South America for the sole purpose of discovering the truth about the poison, and found that essentially it was a decoction of one of the forest vines. After extraction, the liquid decoction is evaporated and poured into bamboo canes, gourds or pots, to form the varieties known as tube, calabash or pot curare, the whole process being associated with a complicated ritual.

The poison is used to tip darts rather than arrows, and they are employed mainly for game and not for fighting. Waterton, well over one hundred years ago, showed that the poison produces its effects by asphyxia. He relates that he saved an ass, apparently killed by a poison dart, by prolonged artificial respiration. The Squire brought back a supply of the poison for examination by the savants of the day, and it was eventually shown by Claude Bernard, the celebrated physiologist, that the poison produced a general relaxation of muscle, an effect caused in some way by a breakdown in the system transmitting nerve impulses to the muscles, causing death by respiratory paralysis.

From time to time attempts were made to exploit the unusual properties of curare, particularly in the treatment of tetanus, in which muscle spasm is so prominent and distressing a feature. But, owing to the unreliable effects of the crude drug, clinical interest declined, and it was not until 1940 that any real progress was made. In that year R. G. Gill brought back from South America a detailed account of the preparation of curare, a quantity of genuine material, and specimens of the plant from which it is obtained. The plant was identified as *Chondodendron tomentosum*, and its collection on a commercial scale was eventually organised.

Tubocurarine

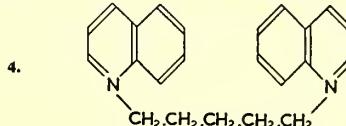
The chemistry of curare alkaloids has been studied extensively by King, who has shown that the principal alkaloid of curare is tubocurarine, a complex quaternary base of the following structure:



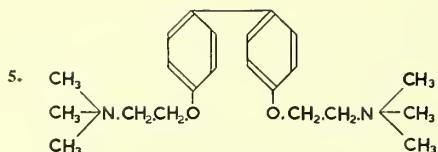
Although the complete structure of tubocurarine has been worked out only in recent years, Crum Brown as long ago as 1869 showed that the curare alkaloids were basically quaternary ammonium derivatives. Many associated compounds have since been discovered to have curariform activity, but the action is often so modified by other groups present as to render the compounds useless from a clinical point of view.

Thus trimethyl-butyl ammonium iodide (formula 2, above) has a muscle-paralysing effect comparable to that of tubocurarine, but it also has the preliminary stimulating action of nicotine, which is undesirable. Some side-effects can be modified by substituent groups, and that is particularly noticeable with cyclic groups. β -phenylethyltriethyl ammonium, for example (formula 3, above), possesses a true curariform action.

Bovet and others (1948) have given considerable attention to this aspect of structure and function, and have prepared a whole series of quaternary ammonium compounds, including a number of choline derivatives. Activity was found in a number of structures, including the following, which has some similarities to tubocurarine:

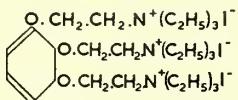


Other compounds were synthesised in which the cyclic fragments were joined directly to the hydrocarbon side-chains, and another series of active compounds was derived from amino-phenol instead of quinoline. Compounds exhibiting that type of structure are of considerable interest. An example is:



The compound may be regarded as a choline ether, a type of compound which, because earlier work had indicated the possible importance of the choline derivatives, has been studied intensively.

Choline ethers derived from phenol showed marked activity, a peak being obtained with a tricholine ether of trihydroxybenzene.



Flaxedil.

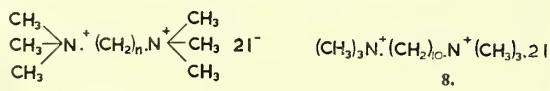
This compound, marketed as Flaxedil, but having the non-proprietary name of gallamine triethiodide, is one of the most useful synthetic muscle relaxants available. The general effect is similar to that of tubocurarine, but is not so prolonged, and there is in general less depression of respiratory function. Gallamine is therefore, for many surgeons, the preferred relaxant for operations of medium length. When prolonged action is required, tubocurarine has an unchallenged position.

Methonium Compounds

Comparable pharmacological effects are often produced by compounds that differ widely in chemical structure; the action of stilboestrol and the natural female sex hormone is a familiar example. Similarly, muscle relaxants of very varied structure have now been synthesised, and the methonium compounds are of particular interest.

It has long been known, from work on allergy, that histamine can cause the death of some animals by asphyxia following constriction of the bronchioles. Similar effects are produced by compounds that can initiate a release of histamine in the tissues, but when certain polymethylene compounds are used in this way, bronchiole constriction is not accompanied by the usual convulsions. The absence of an anticipated reaction of this kind suggested a break in the nerve-muscle system, and led to the investigation by a number of workers (Barlow, Ing, Paton, Zaimis, etc.) of some polymethylene derivatives as muscle relaxants.

Of the many series of compounds examined, the bis-trimethyl ammonium derivatives of the following general formula appeared to be of greatest potential interest:

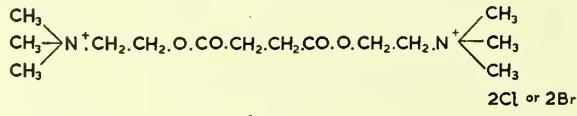


Activity was found to be closely associated with the length of the methylene bridge, the maximum action being exhibited by the decane compound (formula 8, above). The corresponding 9 and 11 compounds were also active, but derivatives with longer or shorter chains had less effect. In the 5 and 6 chain compounds the action was reduced to a point at which they could inhibit the action of the longer chain compounds.

Succinic Acid Derivatives

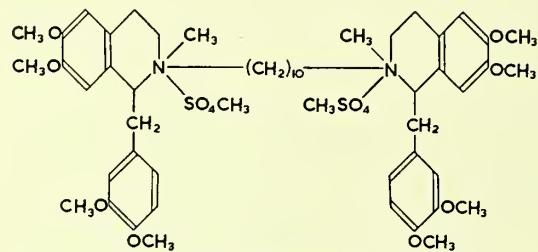
The realisation by surgeons and anaesthetists of the outstanding value of the long-acting muscle relaxants led at once to a demand for a drug with a brief action to facilitate minor surgical procedures. Further work by Bovet and his colleagues on the properties of some choline derivatives indicated that the necessary deep relaxation, coupled with

an evanescent effect, was exhibited by the bis-choline esters of some aliphatic carboxylic acids. A peak of activity, associated with a freedom from unwanted side-effects, was found in the choline esters of succinic acid, and two compounds are now available commercially: succinylcholine chloride (Scoline) (9) and bromide (Brevidil M), and suxamethonium bromide (Brevedil E).



Laudolissin

Further work on heterocyclic bis-quaternary ammonium compounds by Taylor and Collier resulted in the synthesis of a drug similar in action to tubocurarine but with a somewhat longer effect. The compound is decamethylene α ω bis (1-(3'-4'-dimethoxybenzyl) 1, 2, 3, 4, tetrahydro-6-7-dimethoxy-2-methyl-iso-quinolinium methosulphate (Laudolissin),

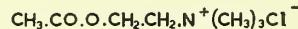


10. Laudolissin.

Of the synthetic curarising compounds to date, Laudolissin most closely approaches that of the naturally occurring tubocurarine, which has to be extracted from imported material. There is a tendency, however, amongst some surgeons, to prefer repeated doses of shorter-acting muscle relaxants rather than the longer-acting compounds, and the use of the latter may perhaps decline.

Pharmacology

From Claude Bernard's early work on curare in 1840, it was known that the drug produces muscular paralysis, but the mechanism of the action remained for long obscure. An answer was eventually provided by the chemical transmission theory of nerve impulses. An impulse, arising in the spinal cord, passes along a nerve to a distributing centre known as a ganglion, from which the impulse may be relayed to one or more post-ganglionic nerve fibres. These nerve fibres terminate at a muscle, and the point of union of nerve and muscle fibres is known as a motor end-plate. The pre-ganglionic nerve fibres act by the release of acetylcholine,



11.

Post-ganglionic fibres are distinguished as "adrenergic" or "cholinergic" as the sympathetic nerves release adrenaline, and the parasympathetic nerves (like all pre-ganglionic fibres), release acetylcholine.

A difference in potential exists in resting nerve fibres and, when acetylcholine is released, the potential difference is temporarily eliminated. The depolarisation leads directly to a contraction of the muscle. Normally the released acetylcholine is destroyed immediately by the action of the enzyme cholinesterase, and the cycle is so rapid that a continuous stream of nerve impulses must arrive at the end-plate in order to maintain a state of muscular contraction.

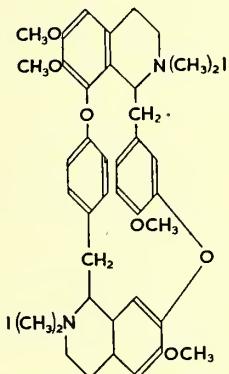
Muscle relaxants produce their effects by inhibiting the normal response to released acetylcholine, but that effect

may be achieved in different ways by different drugs. Tubocurarine, laudolissin and gallamine raise the "threshold of excitation," below which a muscle will not respond. In other words, the end-plate becomes less sensitive to the depolarising effects of acetylcholine, owing to the occupation of the acetylcholine receptor sites by the relaxant compound.

An increase in acetylcholine concentration is prevented by the rapid rate of destruction by cholinesterase. It follows that, if an anticholinesterase compound such as neostigmine is now given, a gradual build-up of acetylcholine concentration occurs, which will eventually neutralise the blocking effect of the relaxant. A normal muscular response can then be evoked, and that action is the basis of the use of neostigmine and physostigmine as antidotes to the tubocurarine type of relaxant.

The muscle-relaxant effects of these drugs on injection are not instantaneous or complete, but occur in a definite order, and depend on dose. The muscles of the eyelids are the first to weaken, and power of speech is soon lost. Paralysis of neck muscles soon follows, and in full doses respiratory failure follows paralysis of diaphragmatic muscle. Detoxification and elimination are fairly rapid and, if respiration is continued artificially, the effects of tubocurarine begin to wear off in about an hour, after which normal muscle tone is restored.

A closely related drug with a shorter action, and preferred by some, is the dimethyl ether of tubocurarine. This is available commercially as the iodide, and has the following structure:—



12. Dimethyl ether of *d*-tubocurarine iodide.

Succinylcholine (suxamethonium) and decamethonium exert an action similar to that of acetylcholine itself. The effect of these drugs, therefore, is that of an excess of acetylcholine; depolarisation extends far beyond the end-plate, and a refractory condition is produced which temporarily inhibits any response.

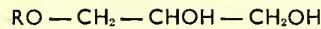
There is a close connection between the structure and activity of these long-chain compounds which suggests some relationship with the receptor sites at which activity is manifested. It is possible that the terminal groups of these compounds coincide with acidic residues or other receptor sites occurring regularly along a polypeptide chain. Such an assumption would explain why a minimum length is necessary before activity is observed, and the marked peak of response confined to a small group of compounds. The action of these drugs is therefore quite different from that of tubocurarine; and neostigmine, far from being an antidote, intensifies and prolongs the action by preventing the destructive action of the cholinesterase normally present. Thus it will be appreciated that each compound has its own characteristic pattern of activity, and that variation in the degree of relaxation of various muscular groups may occur. The effect of a therapeutic dose therefore depends on many factors, including depth of anaesthesia, condition of the patient, and individual response.

Mephenesin

Although the drugs discussed so far have all been nitrogenous compounds, muscle-relaxant activity is not confined to that group. As long ago as 1910 it had been noted in some animal experiments that some glyceryl derivatives had muscle-relaxant properties, and Berger and Bradley (1947) examined a whole series of such compounds, and elucidated certain relationships between structure and activity. The glycerol esters yield compounds of the greatest potential interest, and the group

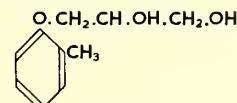


appears to be essential. Within this group the activity of the compound varies considerably with the nature of the substituent groups, and the α substituted ethers



appeared to be most promising. The β and γ derivatives were relatively inactive.

The nature of the substituent group influenced the activity of the compound to a considerable degree. Thus the methyl and ethyl derivatives were almost inactive, but longer chain substituents up to C_5 had more influence. Aromatic substituent groups also conferred activity, reaching a peak in the *p*-tolyl compound. Successive additions of methylene groups gradually reduced the activity by almost a constant amount. Of 143 compounds examined by Berger and Bradley, the most suitable for clinical use was the ortho cresol ether of glycerol, also described as : α : β -dihydroxy- γ -(2-methylphenoxy) propane, introduced as Myanesin, and subsequently given the non-proprietary name of mephenesin. It may be synthesised by refluxing sodium orthocresol with glyceryl monochlorhydrin.



13. Mephenesin.

Pharmacology

Mephenesin produces a temporary paralysis of muscle similar in many ways to that produced by tubocurarine, but by an entirely different mechanism. The relaxant effects are due to a selective depression of the spinal cord, and in normal doses adequate relaxation is produced without respiratory arrest. This combination of relaxation with uninterrupted spontaneous breathing is unusual, and places mephenesin in a class by itself. In spite of this advantage, the use of the drug as an aid to surgery is declining, possibly on account of the relatively high doses required, and risk of haematuria, which has been observed from time to time.

More recently new uses have been found, including the symptomatic treatment of muscular rigidity and tremor associated with some neurological conditions. This work has been extended to include the control of anxiety states and nervous tension. The psychiatric application of mephenesin is increasing, and may indicate a useful line of further research.

(To be concluded).

PAPAVER SOMNIFERUM

*THE Poppy I,
A "lotus blossom."
With the deadly power
To bring forth dreams
Of happiness sublime.
And then the deadly aftermath
Of dread despondency.
But yet despise me not,
For morphine, codeine, papaverine
Of potent benefit to man,
My children are.*

H. A. B.

A MODERN COURSE OF PHOTOGRAPHIC STUDIES

By

H. BAINES, D.Sc., F.R.I.C., F.I.B.P., HON. F.R.P.S.

9. COLOUR PHOTOGRAPHY

PART 1: THE ADDITIVE PROCESS

MOST views are illuminated by approximately white light. Although the quality of the white light may vary considerably, from incandescent lighting, through sunlight to light from a blue sky, yet the eye accepts these as variations of white. Light and shade and colour in a view are perceived because of the variation in intensity and quality of light reflected to the eye from different portions of the view.

Percentage Reflections

We have seen that white light can be analysed into the colours of the visible spectrum. If a portion of a view reflects all these constituents to an equal extent, then that portion will appear neutral in colour (i.e., white, grey, or black), but if the constituents are reflected unequally, then the portion of the view will appear coloured. A red brick wall, for example, absorbs more light at the blue end of the spectrum and consequently the reflected light is relatively richer in red and yellow than the illuminating light. If we were to plot the percentage reflection by a brick wall of different wavelengths of light, we should obtain a curve

average reflection from each section, the spectral composition of the colour record of the brick wall would then be as represented in Fig. 24b. Clearly, the greater the number of sections of the spectrum we can individually record, the nearer will the combination approach the ideal, Fig. 24a, and the more complex will the process be. What is the minimum number of sections we require to give acceptable colour records? It has been found that we require no more than three such records. The main colours of the spectrum are Red, Orange, Yellow, Green, Blue, and Violet, and if we divide the spectrum into three sections and blend the colours within each section, they give us Red, Green and Blue colours respectively, and practically every colour which occurs in nature can be matched by appropriate mixtures of these three wide bands of the spectrum. By such a three-colour system, the record for the brick wall would be represented by Fig. 24c, and the eye could distinguish little or no difference in colour between this record and the original, Fig. 24a. All commercial methods of colour photography are based on the independent recording of the red, green and blue constituents of any colour, and their subsequent combination to give an approximate match with the original. There is a fundamental reason for the success of trichromatic colour photography—i.e., for the remarkable success of the utilisation of three recordings only. It has been known since the beginning of the nineteenth century that there is something of a triple nature in the perception of colour by the eye. It is believed that in the retina of the eye there are three types of colour receptors, one sensitive mainly to red, one mainly to green, and one mainly to blue, and the sensation of all other colours arises from a combination of the excitation to different degrees of these three receptors. Curiously enough, the first colour photograph was taken by Clerk Maxwell and shown at a meeting of the Royal Institution in 1861, with the object of supporting the tricolour theory of vision. He photographed a tartan ribbon, recording first the red constituents of the colours by interposing a tricolour red filter in front of the camera lens. From the negative, a black and white positive was made, which constituted the red record of the view. Positives from negatives which had been similarly exposed through green and through blue filters gave the green and blue records of the view, respectively. The three records were then thrown on to a screen from three projectors, the red record through a red filter, and the green and blue records through a green and a blue filter, respectively.

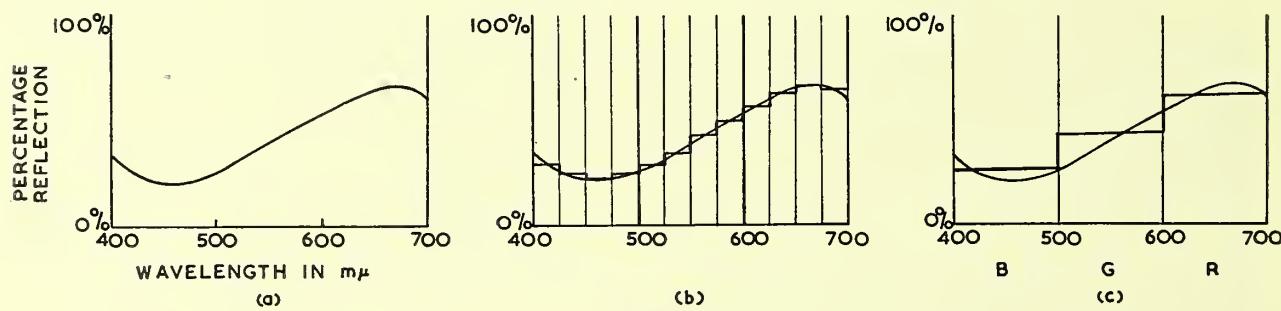


Fig. 24.

of the type shown in Fig. 24a. A method of colour photography in which the light reflected or transmitted from that portion representing the brick wall had exactly the same curve as in Fig. 24a would give a perfect colour rendering of the brick wall. Unfortunately, although such methods exist (e.g., the Lippmann and Seebeck processes), they are impracticable for normal use. How, then, can we obtain results which approximate to the original colour? It is impracticable to ensure that the percentage reflection of every individual wavelength is the same as that of the original object, but we could divide the spectrum into a number of sections, say twelve, and if we recorded the

The screen images thus recorded the appropriate amount of the red, green and blue constituent of every portion of the original view, and when the three images were made to coincide, the original colours were reproduced.

The colour rendering which Clerk Maxwell obtained was poor by modern standards, but surprisingly good in view of the quality of materials and the absence of sensitising dyes in 1861.

Additive Methods

Clerk Maxwell's experiment illustrates the additive method of colour photography, whereby every colour is

analysed into its components, red, green and blue, the subsequent addition of which reproduces the original colour.

A few years later, a remarkable Frenchman, Louis Ducos du Hauron, published a book "Les Couleurs en Photographie" in which he suggested many methods whereby colours could be reproduced photographically, and so comprehensive was his work that he anticipated most of the methods which have subsequently been applied. He proposed a modification of Clerk Maxwell's method which would make it practicable by dispensing with the three lanterns. He suggested that the view should be photographed through a mosaic of minute red, green and blue colour filters, too small to be resolvable by the eye. In this way all three records would be obtained on the same plate, each record occupying a total area of one-third of the plate.

The Separate Colour Screen

In 1895, Joly of Dublin achieved success in applying this principle. Across a sheet of glass he ruled adjacent fine lines of red, green and blue dyes, about 200 to the inch. A plate was exposed in a camera behind and in contact with this screen. From the processed negative a positive glass transparency was made by contact printing, and on registering the transparency with the screen so that the lines of red, green and blue record coincided with the red, green and blue lines of the screen, the view was rendered in colours approximating to the original. Fig. 25 illustrates

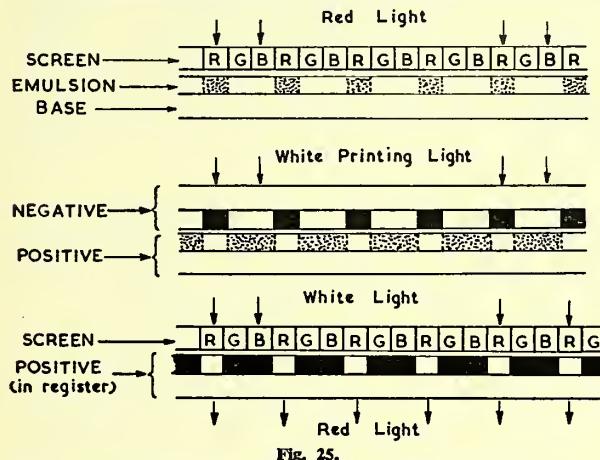


Fig. 25.

the reproduction of a red colour by the Joly and similar methods. Registration of the viewing screen with the separately processed positive can be successfully accomplished only if the screen is relatively coarse, but to counterbalance this disadvantage, the method is very simple to operate, and with an improved screen it survives to the present day as the Johnson Screen Process. This screen has 350 lines per inch and different taking and viewing screens are used. The exposure latitude is, of course, that of black and white photography and, as in black and white photography, any number of identical copies may be obtained without the deterioration in colour rendering inherent in many other processes.

The Joly experiments showed the possibility of colour photography using a mosaic screen, and experiments were made using as colour elements powdered glass, gelatin and other substances.

Random Screen Methods

The first method to be a commercial success was an ingenious one devised by the Lumière brothers and put on the market in 1907 as the Autochrome process. As colour elements, the Lumière used starch grains, which are minute and nearly uniform in size. Three lots of starch grain were dyed red, green and blue, respectively, dried,

and mixed to give a grey powder, which was brushed over a glass plate coated with a tacky varnish. On removing the unattached grains, a single layer of red, green and blue grains remained adhering to the glass plate. The grains were pressed into thin discs by rolling under pressure, and an application of finely divided carbon adhered only to the exposed tacky varnish, thus filling in the interstices between the starch grains.

Now if a positive transparency were made from a negative which had been exposed behind the screen it would be virtually impossible to register this with the original screen, and hence, after an insulating varnish layer, the emulsion was coated direct on to the screen plate and processed to give a positive image by the reversal process previously described. Since the emulsion is never separated from the screen, registration is perfect. The Autochrome plate enjoyed deserved popularity for a quarter of a century. The Agfacolor plate which appeared after the 1914-18 war was similar in principle, but used droplets of dyed gum arabic instead of starch grains. The elements were more transparent than Lumière's starch grains, and there were no interstices to fill with carbon black, so that the results were more luminous.

The Autochrome and Agfacolor additive methods differed from other mosaic methods in that the arrangement of the elements (starch grains and gum droplets respectively) was completely haphazard. Now in any such random arrangement, no matter how completely the grains are mixed, there is bound to be by the laws of chance some juxtaposition of elements of the same colour. It has been calculated that in each square inch of an Autochrome plate there will be some fifty clumps consisting of twelve or more grains of the same colour and, of course, many more clumps containing fewer grains. The effective size of the colour-elements in a screen of random distribution is therefore greater than the size of the individual elements.

Geometric Screen Methods

This disadvantage does not apply, of course, to "geometric" or regular colour screens, since there is no chance of adjacency of several elements of the same colour. Probably the best known and most successful of the regular screen additive processes was the Dufaycolor, perfected as film about 1934. A coating of blue dyed cellulose nitrate was given to cellulose acetate film base, and fine parallel lines (20 per mm. or 500 per in.) of greasy ink running diagonally across the film were printed thereon. The film was led into a bleach bath, which removed the blue colour from the unprotected spaces between the lines, and then into a green dye bath which dyed the spaces green. The greasy ink was then removed by a solvent bath, leaving the film dyed with alternate blue and green lines, forty per mm. in all. A second set of greasy ink lines was then printed, at right angles to the first, and the unprotected lines bleached and dyed red. On removing the greasy ink, the screen or *réseau* pattern consisted of lines of alternate

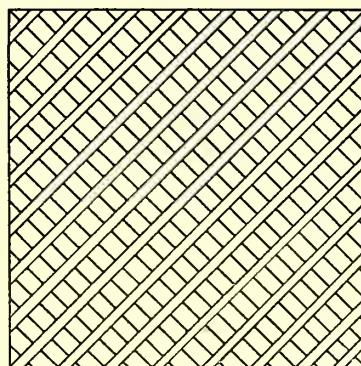
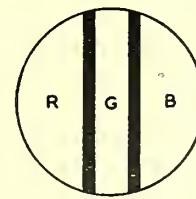
Fig. 26. Dufaycolor *réseau*: alternate green and blue squares, crossed by red lines.

Fig. 27.

green and blue squares, with intermediate thin red lines (Fig. 26). After an insulating varnish, a panchromatic emulsion was applied, and as in the Autochrome process, the emulsion was exposed through the screen and processed by reversal. The Dufaycolor film represents a triumph of mechanical printing, there being about a million colour elements per sq. in. The colour rendering is good, and processing relatively simple.

Lenticular Screen Methods

A most elegant and ingenious method of additive colour photography—the Keller Dorian process—was devised in 1925, and marketed in 1928 as Kodacolor 16 mm. cine film. The back of the film base was reeded, i.e., embossed so as to form minute parallel cylindrical lenses with axes running along the length of the film. The emulsion was exposed through the film base, and the focal length of the lens elements was such that the aperture of the camera lens was focused on the emulsion. The camera lens thus focused the view on the emulsion in the usual way, but the cylindrical lenticular elements divided the image into a series of very fine parallel bands, one behind each element. Moreover, the different portions of the image across each band was made by light passing through different vertical segments across the camera lens. The three colour records were obtained by placing over the camera lens a triple filter which divided the lens aperture by two vertical lines into three approximately equal areas, coloured red, green and blue (Fig. 27). These three portions of the lens aperture were focused by the lens elements on the emulsion so that each band was divided into three strips, recording the red, green and blue constituents of the view. This operation is shown diagrammatically in Fig. 28. The film was pro-

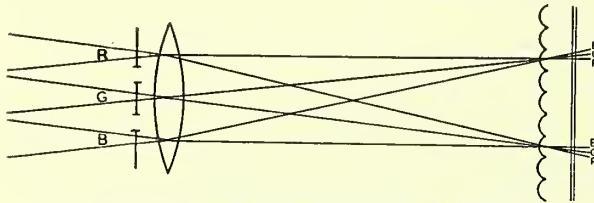


Fig. 28. The lenticular additive process (diagrammatic).

cessed by reversal in the normal way and appeared to be a black and white film. On normal projection it gave a normal black and white result. However, by placing over the projector lens a similar triple filter to that used on the camera, the optical path shown in Fig. 28 becomes reversed. The strip records of the red, green and blue constituents of the view are focused by the lenticular elements on the corresponding filters on the camera lens, and the picture on the screen is in full colour.

Disadvantages of the Additive Processes

The processes so far considered are all examples of the additive process of trichromatic colour photography, the essential principle of which is that three colour records are made which embody only the red, green and blue constituents of a view, respectively. The three constituents are then added together to give the original colour.

Additive processes suffer from two serious defects, which can best be illustrated by considering a mosaic additive process. White light in a view is rendered by the mosaic with no silver deposit. Each element in the mosaic must in theory absorb two-thirds of the light falling on it so as to transmit only the appropriate third of the spectrum. In practice they absorb considerably more, so that the brightest highlight transmits only 20 per cent. of the light falling on it. While this is a serious disadvantage in transparencies, it makes the additive process quite useless for paper prints, as white would be rendered a dark grey. The second disadvantage is that the image is divided into elements which must necessarily be large compared with emulsion grains. The pattern therefore becomes obtrusive

after very limited enlargement. Neither of these objections apply to the alternative system of three-colour photography, viz., the subtractive process, which will be considered in the next article.

Onward from Galen A CURRENT CAUSERIE

It is good news that, for the first time since 1948, poliomyelitis notifications in England and Wales have not used three figures. In reducing the risks hygiene is the most controllable factor. A pamphlet issued by the National Fund for Polio Research gives five goods rules for contacts:

Do not share your towel, tooth-brush or nail-brush with others.

When your handkerchief is soiled, change it and put it in water until it can be boiled.

Wash your hands thoroughly before eating or handling food.

Wash your hands after using the lavatory.

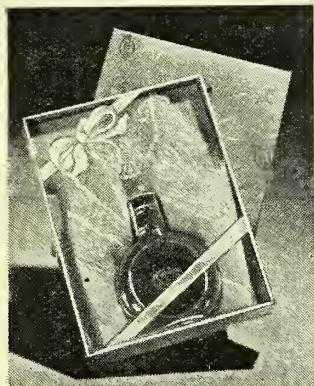
Keep your finger nails short and clean.



A RISE in the total retail sales in Great Britain in the first half of the current year has been referred to by the *Financial Times* as a "retail boom." It may be questioned whether many chemists would regard their figures during those months as representing "boom" trading. For most, the first three months, usually a heavy time in dispensing, were exceptionally quiet, owing to the absence of a winter epidemic. For many there has been a subsequent rise in turnover, and as it has been mainly in counter sales there may be some justification of the *Financial Times*'s analysis, which is based on the observation that food sales went up by only 1 per cent., but "all other lines of merchandise" by 8 per cent. One chemist in a working-class area was at a loss to explain a great increase in home "perms" and shampoos in the holiday season. Was it due to purchases that normally go to pharmacies in holiday resorts? To doing more cheaply at home in the summer, in order to have more holiday money to spend, what they would have had done professionally during the winter season of indoor dances? Or what?



A PARAGRAPH from the seventeenth-century records of the Consistory Court of Exeter, reproduced in the July issue of *Devon and Cornwall Notes and Queries*, includes references to some medicaments not in the pharmacopœias of today. The paragraph has to do with the examination of a candidate for a qualification in surgery. It reads: "John Verchield being examined touching his skill in chirurgery sayeth that in the curinge of a greene wound hee useth to clapp fine linnen half burned upon the wound for the stayinge of the bloud and that linnen having remayned there about half an hower, he dippeth lynt or a tent in oleo Hippenonis made bloude warme if the hurt bee amonege the sinnewes and he layeth a playster of Millolett thereupon and in the somer twice a day it is dressed, and in the winter once, and if humors flow to the greeved place hee useth to take the white of an egg, bolo Arminell and a little wheaton flower and spreadeth it upon leather or a Lynnen clothe, he layeth it above the wound. If the wound be in the fleshy parts hee useth to take the youlke of an egge, Turpentyne and oyle of roses, and beateth it together, untill it come to salve and putteth the same cold with lynt into the wound, and when the wound is come to maturation, he useth another called unguentum aureum which doeth incarnate and heale. And for bookees of Chirurgery he hath Doctor Lowe Vigo, and the Treasure for Englishmen. And hee hath helped divers that have had theire jawes fallen out of joynt." Oil of Hippenonis made blood-warm sounds a soothing treatment, and playster of Millolett, dressed twice a day in the summer and once in the winter, proves Mr. Verchield thoughtful for the comfort of his patient. We hope he passed his examination.

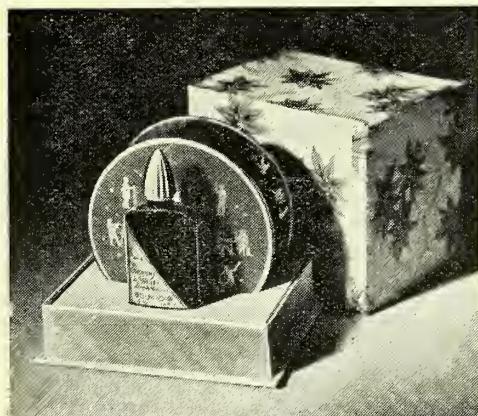


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CHRISTMAS GIFT PERFUMES



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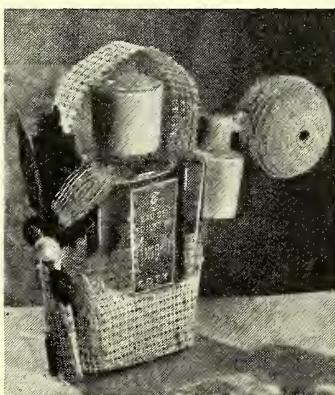
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1. R. J. REUTER CO., LTD. (selling agents: Scott & Bowne, Ltd.). Lace handkerchief with watch-shaped 4711 eau de Cologne. Also available with Old Lavender perfume.

2. DUBARRY PERFUMERY CO., LTD. Forget-me-not perfume in new presentation bottle featuring silver mermaid. Dubarry Prelude perfume is issued in a similar pack—a bottle with Cupid top.

3. BOURJOIS, LTD. Coffret containing Evening in Paris perfume and face powder.

4. B.G.P. COSMETICS, LTD. Jacques Fath Canasta perfume

in small flask with suede case (also available in Iris Gris and Fath de Fath).

5. STEINER. Mink-de-luxe perfume in brown suede box embossed in gold with real mink-tail tassel. The bottle is mounted on twin tiers of white satin, and the pack is boxed in a cream outer pack embossed in gold and further wrapped in cream enamelled paper.

6. B.G.P. COSMETICS, LTD. Jacques Fath perfumes in coffret of three.

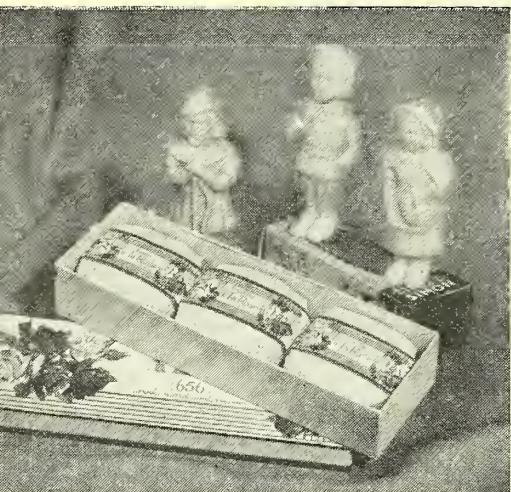
7. COTY (ENGLAND), LTD. Eau de Toilette spray fitted with l'Aimant, l'Origan or Muguet des Bois perfume.

8. L. T. PIVER. Le Trefle Incarnat (purple shamrock perfume with the topical note of clover and fern). Also available are Rêve d'Or, Cuir de Russie and Pomépia.

9. LENTHERIC, LTD. Tweed "swatch" containing $\frac{1}{2}$ -oz. perfume, 4-oz. bouquet, and bath oil.



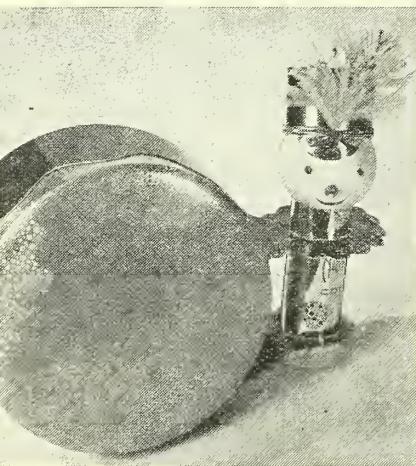
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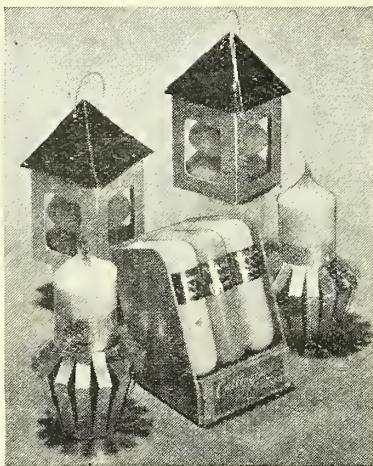
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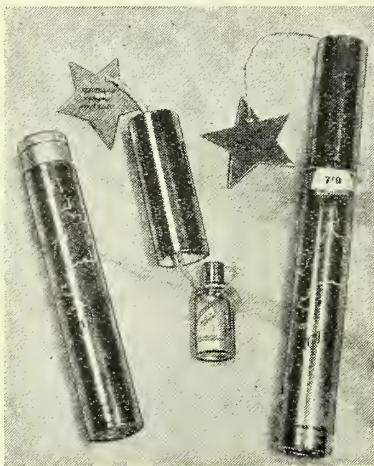
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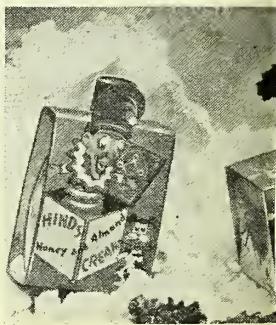
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NOV

1. GERARD BROTHERS, LTD. Nursery models (*Simple Simon, Robin Hood and Red Riding Hood*) in toilet soap; three-tablet pack of *Floral* toilet soap.

2. COLGATE-PALMOLIVE, LTD. Left: Angel box, containing two Palmolive soap, and one Lustre-Creme, large; centre: Halo, small and large, in sleeves; right: Lustre creme jars in miniature hat box.

3. VINOLIA CO., LTD. Coffret containing baby powder and baby soap. Transparent tissue-wrapped soap *Teddy Bear*.

4. CULLINGFORD (Castle Soaps of Cam-

bridge, Ltd.). *Zebbie* and *Monty* soap novelties, from the famous Hogarth puppets presented by Annette Mills. Available hand painted in three colours. *Zebbie* model also available unpainted in coloured toilet soap.

5. J. C. & J. FIELD, LTD. Soldier soap. Keg haircream carton. *Sally* soap.

6. COTY (ENGLAND), LTD. Drummer Boy solid Cologne and bath dusting powder in novel combination package. Perfumes: *l'Aimant*, *Chypre*, *Paris*, *l'Origan*, *Muguet des Bois*.

7. CULLINGFORD. Guest soaps in decorative lantern in six assorted gay metallic colours with acetate windows and gilded cords. Bookcase pack in wood-grained board; shaving stick in candlestick pack in metallic colours with Christmas foil.

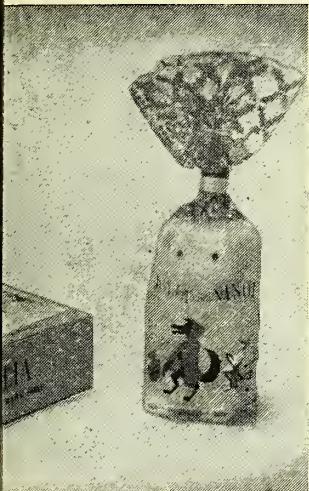
8. MAX FACTOR HOLLYWOOD AND LONDON (SALES), LTD. Magic wand novelty containing *Electricque* Cologne and talcum.

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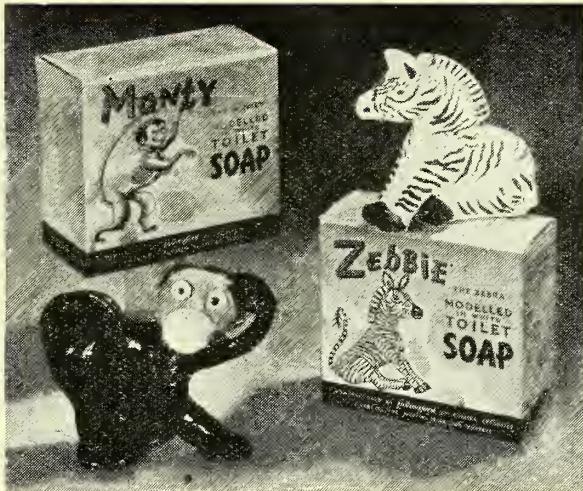


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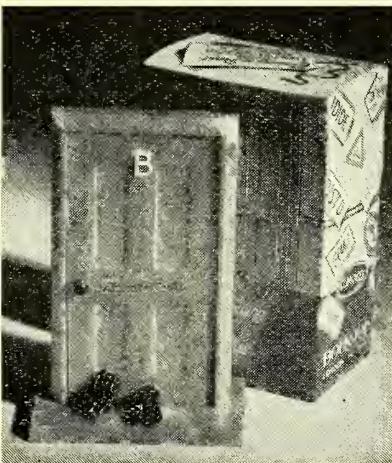
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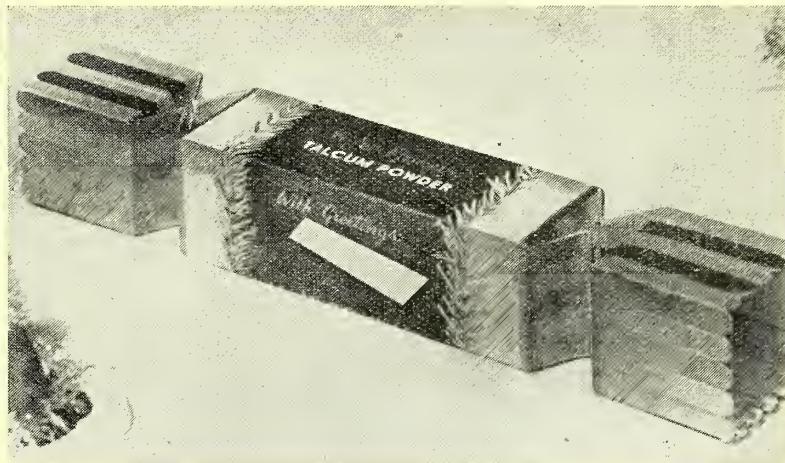
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9. LEHN & FINK PRODUCTS, LTD., Jack-in-the-box sleeve for small size Hinds honey and almond hand cream; carton for jar; Father Christmas sleeve for large size. No extra charge for packings.

10. BOURJOIS, LTD. Hotel-door novelty containing Evening in Paris perfume in flacon.

11. RICHARD HUDNUT, LTD. Three Flowers cracker in red, gold and green containing tin of talcum powder.

12. SAVILLE PERFUMERY, LTD. Perfume cocktail shaker available in June, Mischief and Seventh Heaven perfumes.

13. DECLON SPONGES, LTD. Christmas showcard for Declon toilet sponges. The decorated transparent wrapper is easily removable from any stocks unsold after Christmas.

14. SAVILLE PERFUMERY, LTD. Parisian kiosk decorated with typical French posters and containing bottles of June and Mischief or June and Seventh Heaven perfumes.

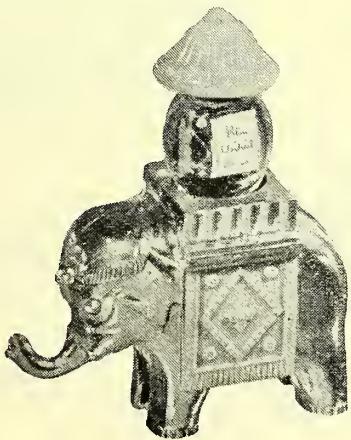
15. DELAVERE, LTD. Rama elephant in gold, carrying bottle of Blue Orchid perfume.

16. DUNLOP RUBBER CO., LTD. Attaché case containing Dunlop children's hot-water bottle and labelled "Sleepy-time Train," "Stairway Express," "Moonbeam Sleeper," "Bedfordshire Special," etc.

TIES

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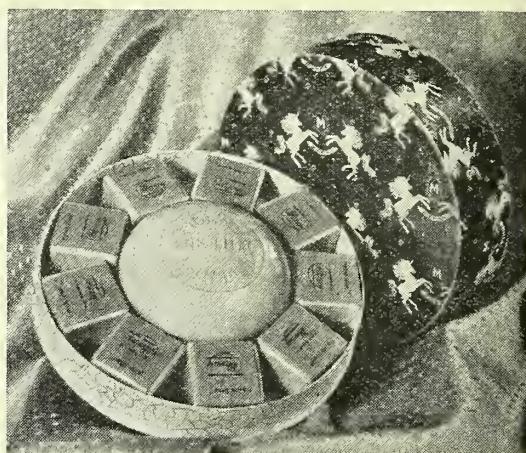
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COFFRETS and Gift Boxes

1. J. GROSSMITH & SON, LTD. Gift set containing bottle of *White Fire* bouquet, tablet of *White Fire* toilet soap, and three bath cubes.

2. COTY (ENGLAND), LTD. Special "travel-light" fitted beauty bag in pink and cherry.



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3. MORYN, LTD. Gift set containing one bath disk and nine bath-salt tablets in French fern, pink lilac, gardenia, lily-of-the-valley or lavender flowers perfume.

4. MORYN, LTD. Gift set containing one 2-oz. bath essence, one hand soap tablet and three bath-salt tablets with blue, white and gold unicorn wrapper and embossed white-and-gold "crackle" lining.

5. GOYA, LTD. Corvette coffret with after-shave lotion and shaving bowl; His-Her coffret with Corvette after-shave lotion and Goya Cologne; Goya coffret containing bath salts and talcum; Goya coffret of perfume and perfumed Cologne; foreground, "flower tub" pack of Goya perfume.

6. DELAVERE, LTD. Blue Orchid lanolin hand cream and two tablets of matching soap.

7. R. J. REUTER CO., LTD. (distributors: Scott & Bowne, Ltd.) Watch-shaped bottle of 4711 *eau de Cologne* with *eau de Cologne* bath cubes in decorative box.

8. POND'S EXTRACT CO., LTD. Ponds coffret (available in two sizes), containing Ponds vanishing and cold creams, face powder and lipstick.

9. JOHNSON & JOHNSON (GT. BRITAIN). Presentation gift box containing baby powder, cream, soap, lotion, brush, weight record, and booklet.

10. RIMMEL, LTD. Gold-and-white nail beauty cabinet containing nail strengthener, nail-polish stick, nail-white pencil, cuticle remover, buffer, emery boards and orange sticks.

11. H. BRONBLEY & CO., LTD. Blossoms-and-dew coffret containing two tablets of soap, four bath cubes, and bottle of hand lotion.

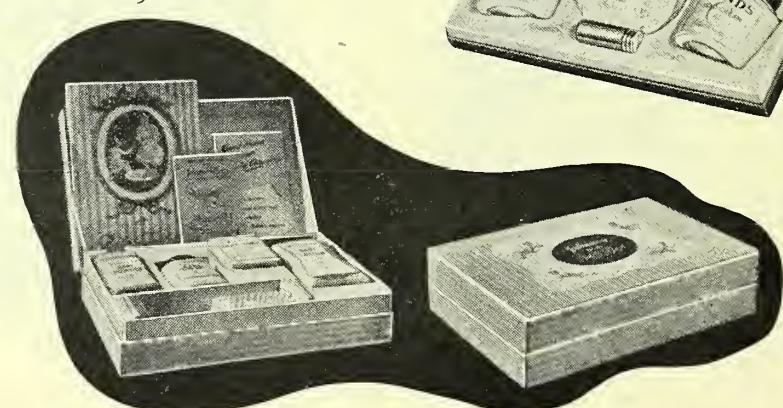
12. RICHARD HUDNUT, LTD. Three Flowers coffret, in jade and gold with transparent window, containing face powder and perfume.

13. INNOXA (ENGLAND), LTD. Left: Paris Mist skin perfume, soap and talcum powder. Right: Box of three soaps.

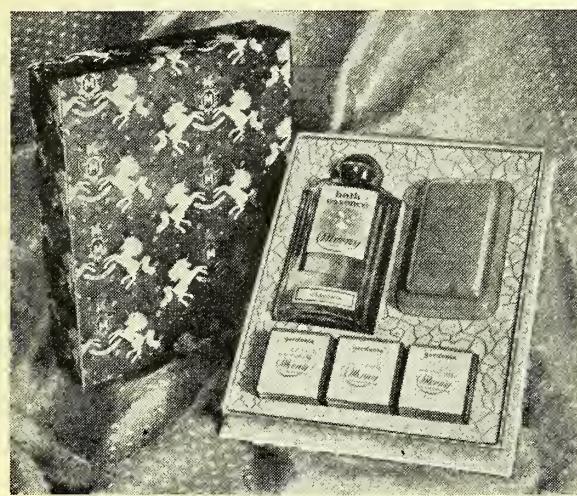
14. MAX FACTOR HOLLYWOOD AND LONDON (SALES), LTD. Colour-harmony gift sets in blue foil decorated cartons, uncharged. The items are interchangeable and each set has the price clearly shown.



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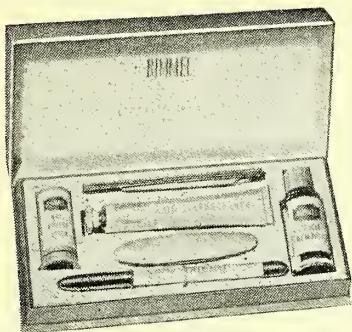
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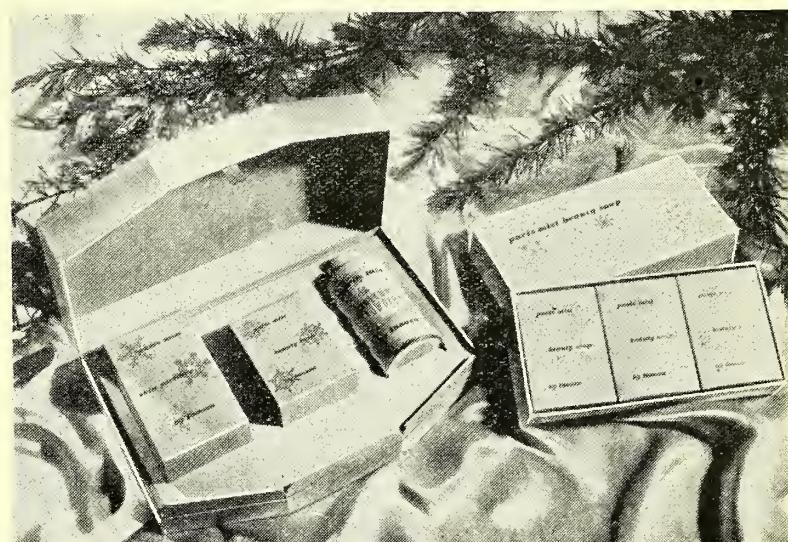
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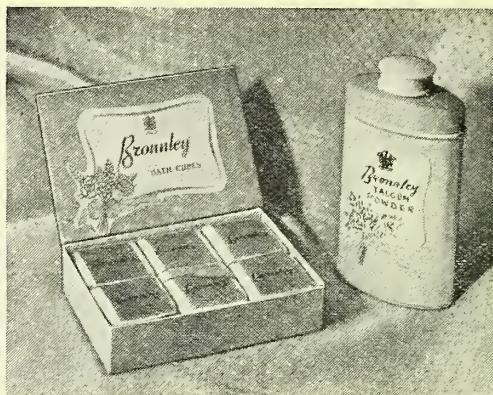




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1. SKUSE & CO., LTD. Blue Rose talcum powder in pastel shade polythene puffer bottle ("The bottle is the puff"). In similar pack ("The bottle is the spray") are Jean Adaire eau de Cologne and lavender water.

2. CUSSONS, SONS & CO., LTD. Imperial Leather shaving bowl in gift box. Apple-blossom gift set containing talcum

powder, soap and four bath cubes. Imperial Leather set in gift box containing talcum powder and two tablets of soap also available.

3. BRONNLEY & CO., LTD. Talcum powder in oval tin. Box of six bath cubes. In English fern, lavender or lilac odour.

4. RIMMEL, LTD. Violet oatmeal complexion powder, dusting powder, beauty mask, and

bath cubes.

5. RECKITT & COLMAN, LTD. Christmas pack combining six Bathjoys and bottle of Nulon hand cream in form of lady's handbag "embroidered" with Christmas roses. Also box of six bath cubes.

6. DUBARRY PERFUMERY CO., LTD. Box of three assorted tablets of decorated soap. Forget-me-not talcum drum and

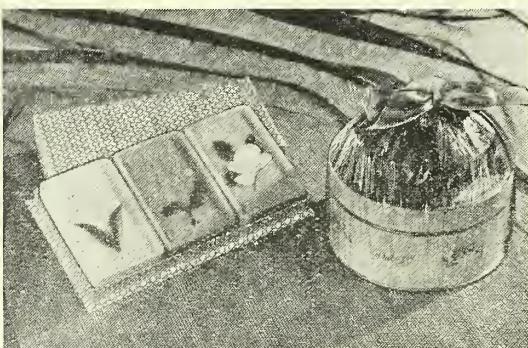
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crystal bath soap wrapped in transparent tissue.

7. J. GROSSMITH & SON, LTD. Gift set in English freesia perfume containing four bath cubes and talcum powder. (Also available in Old Cottage lavender and white gardenia.)

8. RICHARD HUDNUT, LTD. Cashmere bouquet talcum powder and Lustre-creme in decorative outer.



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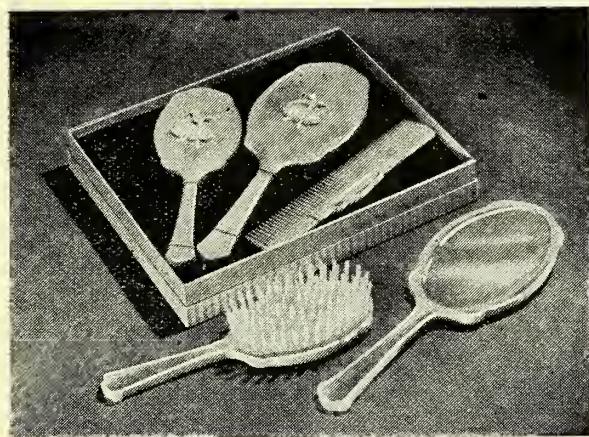


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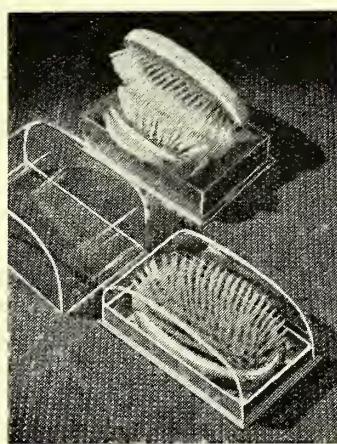


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BRUSH WARE



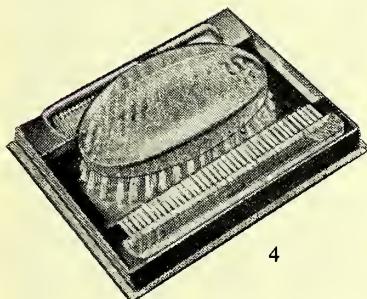
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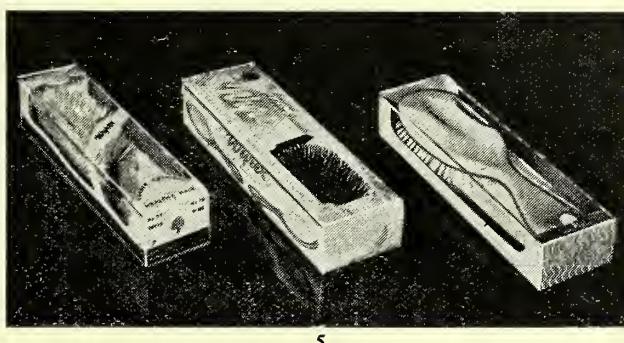
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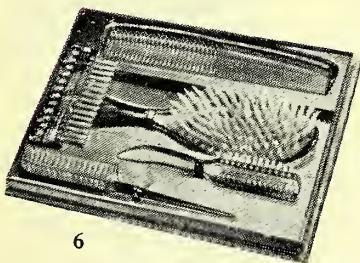
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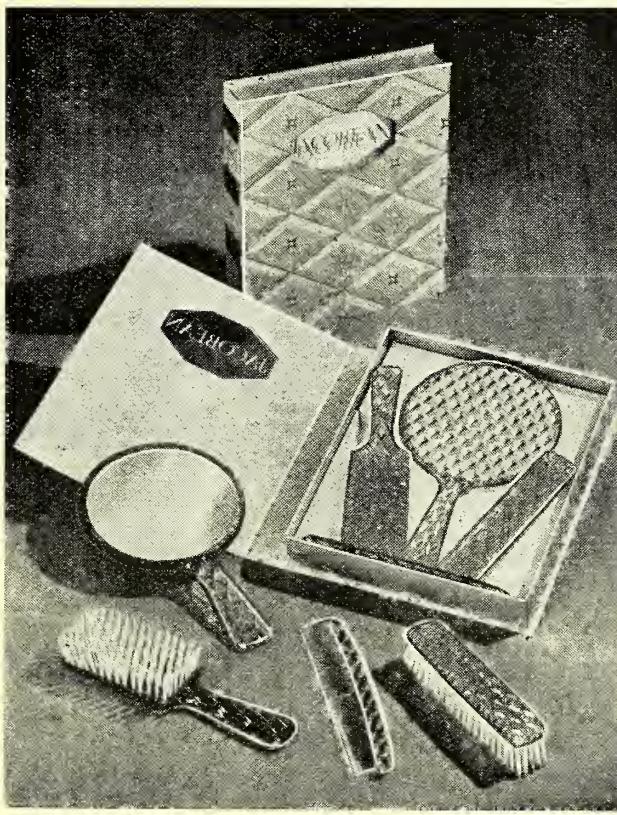
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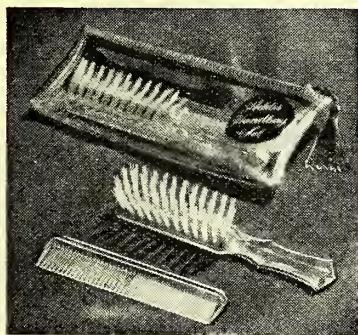
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1. ADDIS, LTD. Mirror set with mirror, hairbrush and comb. Backs of brush and mirror have net pattern and ballerina (as shown), ribbon or rosebud motif.

2. OAKFIELD & CO. (WYREX BRUSHES), LTD. Military hairbrushes in acetate presentation cases with gilt bases. Nylon or bristle tufts.

3. SPA BRUSHES, LTD. Face - powder brush in transparent drum. Pink, green or blue.

4. SPA BRUSHES, LTD. Gent's three-piece brush set (Spa military hairbrush, pocket cloth brush, and comb). No. 1111

5. OAKFIELD & CO. (WYREX BRUSHES), LTD. Three packs of ladies' hairbrushes suitable for Christmas gift displays.

6. SPA BRUSHES, LTD. Ladies' five-piece brush set (hairbrush, nailbrush, brushcomb, pocket cloth brush and dressing comb). No. 1015.

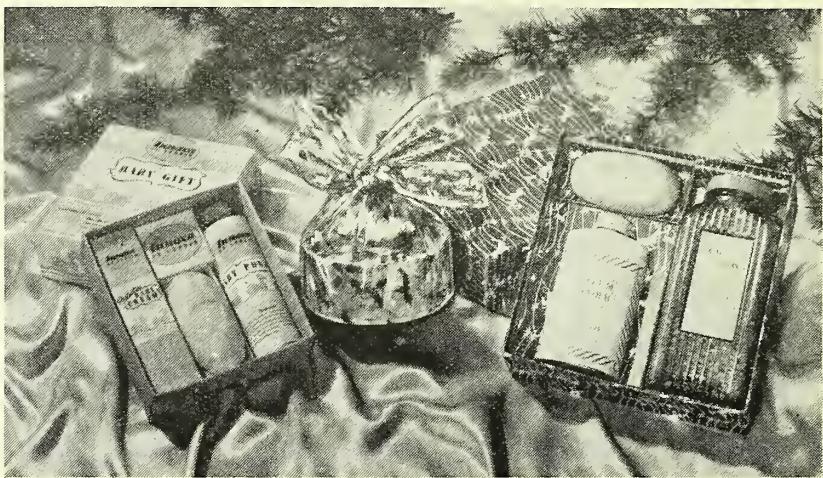
7. ADDIS, LTD. Handbag set. Addis handbag brush and comb in transparent pack. Pink, blue or green.

8. ADDIS, LTD. Jacobean mirror set (mirror, hairbrush, clothes brush and comb). Green, blue or pink.

GIFT MISCELLANY



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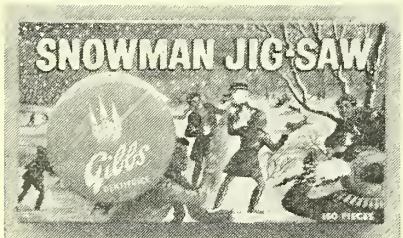
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1. GALA OF LONDON, LTD. Jewelled lipstick (for Christmas period only) in "packers" of two doz. The four most popular lip colours each with rod pochette and four different jewels.

2. LENTHERIC, LTD. Men's de luxe fitted travel kit, containing brilliantine, aftershave lotion, tanbark Cologne, bath soap and lather shave cream.

3. SIMON, MAY & CO., LTD. A Christmas decorated box containing 1 doz. slumber nets each in transparent envelope.



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4. D. & W. GIBBS, LTD. Gibbs' dentifrice 150-piece jig-saw pack containing tin of dentifrice.

5. INNOXA (ENGLAND), LTD. Left: Protective baby cream, baby soap and baby powder. Centre: Bath powder and toilet soap. Right: Toilet soap, talcum powder and bath salts.

6. D. & W. GIBBS, LTD. Erasmic shaving bowl (red and gold) with stabilised base.

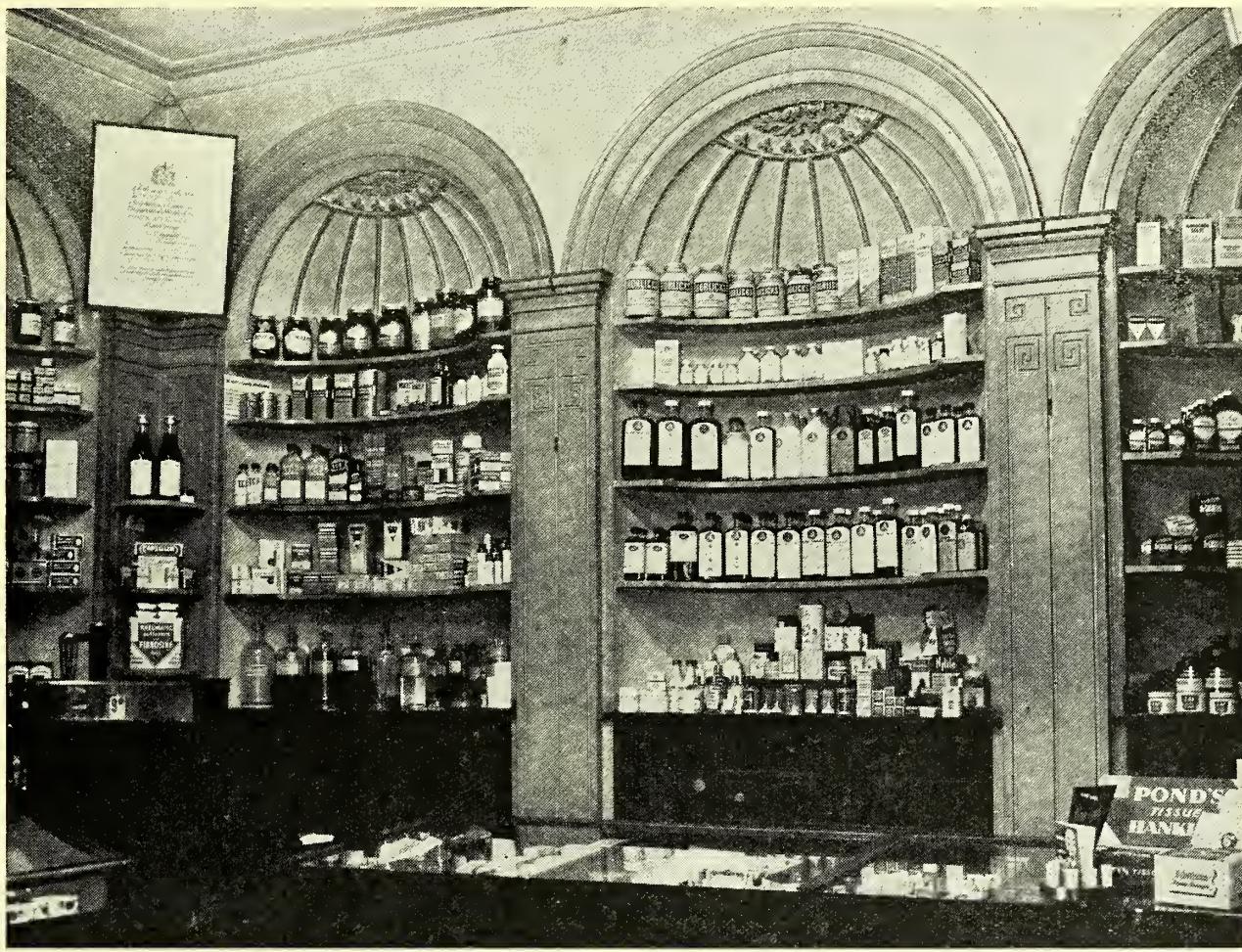
7. D. & W. GIBBS, LTD. Gibbs' gift shaving set, tube of lather shaving-cream (with

skin-protecting ingredient) and Spa shaving brush.

8. D. & W. GIBBS, LTD. Candle containing three sachets of Pear's Gloria shampoo (red, green and yellow) at price of the shampoos.

9. A. S. BROWN & CO. (MANUFACTURING), LTD. Powder compact to hold latest cream-powder refills displayed on showcard.

10. A. S. BROWN & CO. (MANUFACTURING), LTD. Presentation box containing powder compact, lipstick and comb.



The arched recesses lend a handsome appearance to the shop.

A HUNDRED YEARS IN ONE FAMILY

Distinguished record of a century-and-a-half-old pharmacy at Bilston, Staffs

THE pharmacy of Samuel Shelley, Ltd., at 83 Church Street, Bilston, Staffs, has been in the Shelley family for a century; and the business itself was established nearly a century-and-a-half ago. An entry in the 1818 Staffordshire directory refers to J. R. Pretty, druggist; the 1834 and 1838 directories mention Thomas Pretty, druggist, presumably J. R.'s son. Thomas Pretty was a well-known character in the town and is several times mentioned in the old *Black Country Stories*. An 1851 entry relates to Elizabeth Pretty, druggist, but in a "stampt minute" dated July 12, 1845, she is described as a "tobacco dealer." The book was evidently signed regularly by the visiting Customs and Excise officer.

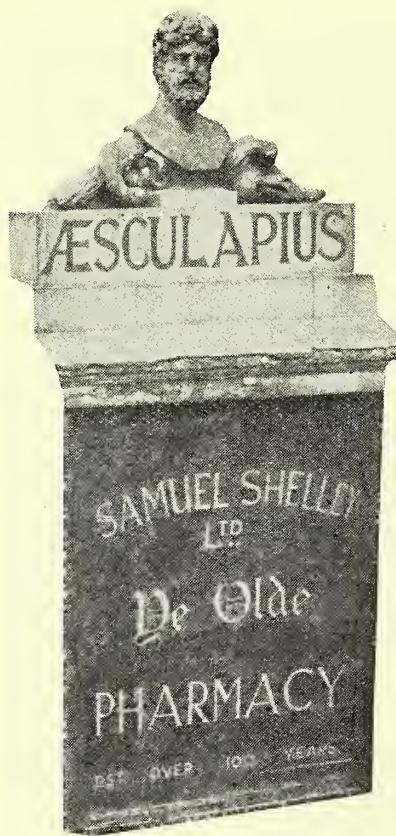
In 1854 the property was enfranchised by the Lords of the Manor of Stowheath to George Kimberley, variously described in miscellaneous documents as school teacher, accountant and gentleman. It is probable enough that he was the father of George Kimberley, "chymist."

The First Shelley

The first Shelley, John Burton, appears on the scene in September 1854. A price list bearing that date and in his handwriting gives prices for the benefit of the (presumed) traveller then employed, a Mr. A. C. C. Kettle. Items in the list include:—

	s.	d.		s.	d.
Acet. canthar.	V.	1 9	oz.	Sulph. sublim.	... 2½ lb.
Acet. colchici	...	1 8	lb.	Tinct. bellad.	... 3 6 lb.
Acid. benzoicum	...	2 0	oz.	Tinct. benz. co.	... 3 6 lb.
Acid. citricum	...	6 6	lb.	Tinct. camph. co.	... 2 8 lb.
Acid. tartaricum	...	3 0	lb.	Tinct. capsici	... 2 8 lb.
Balsam. Peru.	...	8 0	oz.	Tinct. card. co.	... 2 8 lb.
Balsam. tolu.	...	8 0	oz.	Tinct. cascarillæ	... 2 8 lb.
Calamin. præp.	...	4 0	lb.	Tinct. gent. co.	... 2 8 lb.
Caps. papaveris	...	2 0	c.	Tinct. hyoscyami	... 2 8 lb.
Chilo:ofo myl.	...	9 0	oz.	Tinct. lavand. co.	... 3 6 lb.
Conf. opii	...	4 0	lb.	Tinct. opii	... 3 9 lb.
Creta præp.	...	2½	lb.	Tinct. tolu.	... 3 6 lb.
Croci in foens	...	3 6	oz.	Tinct. zingib.	... 3 6 lb.
Ext. belladonnae	...	8 0	oz.	Ung. antim. pot. tart.	1 4 lb.
Ext. hyoscyami	...	6 0	oz.	Ung. belladonnae	... 6 8 lb.
Ess. bergamot.	...	1 0	oz.	Ung. creosoti	... 3 0 lb.
Ess. limonis	...	10 0	oz.	Ung. elemi	... 2 8 lb.
Pot. carbonas	...	9 0	lb.	Ung. ammon. chlor.	2 0 lb.
Pulv. ipecac.	...	16 0	lb.	Ung. opii	... 3 0 lb.
Pulv. opium tky	...	32 0	lb.	Ung. sambuci	... 1 4 lb.
Rad. colchici	...	3 0	lb.	Ung. zinci	... 1 4 lb.
Rad. glycyrrhizæ	...	1 0	lb.	Vin. aloes	... 3 0 lb.
Rad. jalapæ	...	4 6	lb.	Vin. colchici	... 2 6 lb.
Rad. senegæ	...	5 4	lb.	Vin. ipecac.	... 3 6 lb.
Rad. zingib. Jam.	...	1 8	lb.	Vin. opii	... 5 4 lb.
Sem. lini	...	3 0	lb.	Vin. veratri	... 2 6 lb.
Spongia ust.	...	9 0	lb.	Zinc. oxid.	... 2 8 lb.
Sulph. præcip.	...	1 2	lb.	Zinc. sulph. pur.	10 lb.

In 1857 George Kimberley mortgaged the property and it is likely that John Burton Shelley and Edwin Shaw Shel-



Bust of Aesculapius on the coping.

macy there: it still exists as George Shelley, Ltd., 232 Corporation Road, Newport. The Shelleys were a widely spread pharmaceutical family, for Miss E. M. Shelley, a stepdaughter of Mr. Samuel Shelley, qualified as a chemist and druggist in 1919 and Mrs. E. M. Crowe (as she now is) is in business in Wolverhampton with two of her sons, Messrs. D. K. and Allen G. Crowe, who are also qualified.

As the following extract from *Bilston Wesleyan Methodism* shows, John Burton Shelley applied himself to the betterment of his fellows: "In about 1860, several Sunday school teachers, who were impressed with the urgent need to do more for their scholars than could be done with the brief opportunities afforded in the Sunday school, commenced extension classes in their several homes. Amongst these were Mr. John Shelley, who gathered his young men in the large room behind his shop."

Alternative Premises

On the death of J. B. Shelley in 1914, the executors decided to close down the business. Samuel, son of J. B., was determined to carry on and he did so in alternative premises not far away. Fortunately he was able, by obtaining the lease from the landlord, to return to the old shop at the end of the quarter, a matter of a few weeks later. Samuel Shelley, Ltd., was then formed. It is sad to have to record the death of Mr. Samuel Shelley (see *C. & D.*, September 11, p. 246) on the eve of the pharmacy's centenary celebrations. The present managing director of the company is Mr. Trevor Shelley, M.P.S.

The front of the premises are of a later date than the rear and are typically Georgian. Beams made out of whole oak trees are a feature of the rear portion. A number of "Pitt's pictures" (windows bricked up to avoid payment of the tax levied on them by Pitt) can also be seen in the older part of the building. Many of the floors in the building have been replaced twice by nailing new boards to the old.

ley, his brother, took over then.

The Prestys and Shelleys were one-time neighbours of the Baldwins (from which family the late Earl Baldwin sprang). According to *Bilston Wesleyan Methodism*, "At the beginning of the nineteenth century, attracted by the expanding possibilities of the iron trade, the Baldwins settled in Bilston in a house opposite the Market Place." The house referred to is probably the tavern next door to the pharmacy at 83 George Street. When the Baldwins moved to Newport, Monmouthshire, in about 1912, George Shelley, one of Samuel's brothers, moved with them to open a phar-

A remarkable bust in stone of Aesculapius, of which there must be few examples left in Britain, surmounts the coping on the front of the building; it is identified by large lettering on its base.

Attractive Front Shop

The front shop presents a most attractive appearance, three sides being composed of arched recesses fitted with shelves. On one side of the shop the upper portions of the arches are equipped with glass-fronted doors, and one of the panes bears the signature—no doubt inscribed with a diamond—of Thomas Pretty. The age of the glass is indicated by the fact that it has "run," so that the top of each pane is thinner (as shown by a micrometer gauge) than the lower portion. When a breakage of glass does occur, so finely made are the frames that a cabinet maker has to be called in to effect repairs. Similarly, the bow glass in the shop windows has to be specially made; it is heavily insured.

The arches, including their backs, are all of solid mahogany that has been painted pale green to lighten the internal appearance of the shop. The counters are of satin mahogany. The drug drawers are the original ones with which the shop was equipped, and no nails are used in their construction.

In the rear part of the premises, used for stock and offices, both Tudor and Georgian bricks can be observed in the walls. The Tudor brick is narrower. It is likely that the bricks were re-used from some earlier building.

In the dispensary, an unusual feature is a serving hatch communicating with the side alley. No longer used, it may have been introduced during one of the cholera epidemics with which the district was at one time afflicted (the last was in 1854).

The building is scheduled as an ancient monument.

ECHOES OF THE PAST

CARDIAC AND NERVOUS TINCTURE

From *The Morning Chronicle*, March 5, 1795

By his Majesty's Royal Letters Patent, Granted unto JAMES RYMER, Surgeon, Gerrard-street, Soho, London, Inventor and Preparer of THE CARDIAC AND NERVOUS TINCTURE, the only safe and effectual remedy* for Disorders of the Head, Stomach, and Bowels, viz.

First, headache, derangement of thought, confusion and giddiness.

Secondly, indigestion, loss of appetite, bilious crudities and retchings, yellowness of the eyes and skin, flatulence, pain, spasms, heartburn, hiccup, gripings, colic, and costiveness.

Thirdly, for the Gout in the stomach and head.

Fourthly, for all such affections of the nervous system as are attended with depression of spirits, paralytic and apoplectic dispositions; prostration of strength, timidity, tremors, startings, palpitations, and faintings, or fits.

Fifthly, for bracing and strengthening the whole system, in states of relaxation and debility.

Sixthly, as a powerful antiseptic, in cases of putrid bile, and for counteracting infection, or preventing and curing putrid, malignant, and pestilential fevers, sore throats, *viz.* Cynanche Maligna, &c. prevailing in prisons, crowded filthy places, hospitals, ships, hot and unhealthy climates, &c.

This Medicine, as an immediate restorative and corroborant, is a most effectual remedy in female obstructions and suppressions, and cases of retention at Maturity; also in weaknesses, morbid discharges, and irregularity about the turn of years.

Sold in bottles at 2s. 9d., 5s. 5d. and 11s. 6d. and in stopper flints, at 3s. 6d., 7s. and 14s. at No. 36 Gerrard-street, Soho; where Mr. Rymer may be consulted personally, or by letters, post paid . . ."

*Vide the Sixth Edition of Mr. Rymer's Tract upon these maladies, with various Cases and Certificates of Cures.

BORIC ACID POISONING

BY PETER COOPER, F.P.S., F.C.S.

THE dangers of using dusting powders containing boric acid are a recurrent theme in medical journals. An annotation in *The Lancet* (1954, 1, 507) recently summarised the indictment against this compound, and suggested that the first step towards discouraging its use for infants might be to exclude it from the British Pharmacopœia. The case against boric acid has also been expressed by the *British Medical Journal* (1954, 2, 222), which points out the danger of treating napkin rash in infants with boric powders, and makes the point that, for the purpose of antisepsis, there are more reliable drugs available, notably the quaternary compounds. Boric poisoning so frequently takes a fatal course, and boric powders are so popular as domestic remedies, that it is advisable for the pharmacist to make himself aware of the dangers involved, and to caution domestic users against them.

Absorption of Boric Acid

When applied locally, boric acid is not absorbed to any extent from unbroken skin. An inflamed surface, however, may absorb it rapidly and produce toxic symptoms after eight hours or more. Where small quantities are regularly and often employed, cumulative effects may develop, since the drug is excreted only slowly. Watson (*J. Amer. med. Ass.*, 1945, 129, 332) denounced boric powders as inert and dangerous, while Ducey and Williams (*J. Pediat.*, 1953, 43, 644) found that a powder containing 5 per cent. or more was capable of causing severe poisoning if applied regularly to injured skin: a skin area of 100 sq. cm. could absorb a potentially lethal amount within five days, which is roughly the time taken for the kidneys to excrete the compound. Infants, unfortunately, are most prone to poisoning, as well as most liable to treatment with boric acid, and a considerable proportion of the infant deaths from uncertain causes are associated with histories of napkin rash and dermatitis. It has, therefore, been hinted by Fisher (*Amer. J. Path.*, 1951, 27, 745) that by no means all the cases of fatal boric poisoning have been recognised. The symptoms simulate gastro-enteritis and exfoliative dermatitis (Ritter's disease), and may coincide with these conditions (Goldbloom and Goldbloom, *J. Pediat.*, 1953, 43, 631). In cases of known poisoning, there are nearly always skin changes, including widespread erythema, sometimes scarlatiniform, with digital congestion; the original napkin rash may be aggravated (McGillivray and Fraser (*Arch. Dis. Childh.*, 1953, 28, 484). Bumbalo (*N.Y. St. J. Med.*, 1952, 15, 1913), who also reported fatalities after boric applications to excoriated skin, added that the lack of any really satisfactory treatment for boron poisoning was another reason why its use should be discouraged.

Young and colleagues (*Canad. med. Ass. J.*, 1949, 61, 447) reported the deaths of six infants between six and eleven days old, as a result of feeding with milk that had been diluted with 2·5 per cent. boric acid solution in place of water. The feeds were given routinely, and caused death within nineteen hours to five and a half days; the amounts of boric acid given were less than 3 gm. Vomiting and diarrhoea became more pronounced from the first day; on the second, skin excoriations appeared and were followed by convulsive tremors of the facial muscles and extremities; finally, cyanosis and respiratory failure occurred. On the strength of those experiences, Young and colleagues recommended that all borates should be labelled POISON.

Boric acid brings about haemolysis of red blood cells, even in isotonic solution, and it seems that some permeation occurs which increases the cell fragility to other electrolytes. At 37° C., solutions containing more than 2 per cent. inhibit phagocytosis, while in solutions of 4 per cent. concentration all phagocytes are destroyed, though not all staphylococci. The bactericidal action of boric acid is

slow; in eye lotions it appears to be increased by the lysozyme of the lachrymal secretions (Novak and Taylor, *J. Amer. pharm. Ass.*, 1951, 40, 428; 430).

Borax is about one-third as toxic as the free acid, but has been known to cause severe poisoning. A girl of thirteen months who ate borax in the form of soldering-flux presented alarming symptoms within two hours, showed spasmodic muscular rigidity, and remained deeply comatose for three hours. After treatment with nikethamide, artificial respiration and gastric lavage, she made complete recovery (*Living-Taylor, Lancet*, 1954, 1, 515). It would be wise, since mel boracis and glycerinum boracis are commonly applied to children's sore throats, to warn parents not to use them too liberally, particularly over long periods.

Guarnieri (*Clin. nuova*, 1952, 1-2, 37) has stated that it is possible to treat only the symptoms of established boron poisoning. There is often profound shock, for which intravenous fluids (Ringer's solution), blood or plasma, and adrenal cortical extracts are useful; for the pulmonary complications antibiotics are useful. Treatment is usually delayed because it is difficult to distinguish boron poisoning from gastro-enteritis and dermatitis due to other causes. Headaches and visual disturbances are early symptoms; a marked redness of ears, nose and fingers is usually evident in children, and the lesions have been described as having a "boiled lobster" appearance.

Boric acid is excreted in sweat, and about 80 per cent. in the urine; it passes the placental barrier into the foetal circulation, and is present in milk after oral or dermal absorption. Its presence in biological fluids may be detected by the following tests: If urine is added dropwise to excess of a 0·05 per cent. solution of carmine in concentrated sulphuric acid, a violet-blue colour results if boric acid is present; the colour is best viewed in a porcelain dish. Excess of urine restores the red colour of the reagent. Acidified urine (or cerebrospinal fluid), dropped upon turmeric paper, produces a red colour, changed to blue-green by excess of ammonia, in the presence of boric acid. That reaction, modified by using pure curcumin in the presence of salicylic acid, is specific for boron, and may be used for quantitative colorimetric determinations (*Zaletel, Rec. Trav. Inst. Rech. Struct. Mat.*, 1953, 2, 31).

MEDICAL ABSTRACTS

ANTAGONISING METHONIUM SIDE EFFECTS

PILOCARPINE has been used by Gunn and Cooke (*British Medical Journal*, 1954, 1, 1473) to counteract such side-effects of the methonium drugs as dryness of the mouth and eyes, loss of accommodation, and constipation. Medicinal doses increase salivary, gastric, and intestinal secretions, and larger amounts stimulate the intestinal musculature. In the one patient who received pilocarpine, a tablet containing one-tenth of a grain was given orally, and copious salivation ensued. The dose was reduced to one-thirteenth of a grain subsequently, with good results. If necessary, pilocarpine can be antagonised by atropine.

OXYGEN AS VERMICIDE

TALYZIN (*Lancet*, 1954, 2, 314) describes a method of killing the worms of ascariasis by passing oxygen into the duodenum through a tube which enters by way of the nose or mouth. The patient is given an enema before breakfast, and after evacuation the tube is passed, and oxygen introduced under slight pressure from an aspirator. If nausea or pain occurs, the treatment is temporarily stopped. The usual dose for an adult is 1·2 litres of gas. A saline aperient is given after two hours, followed by a normal meal after a further three hours. The dead ascarides are evacuated in the stool on the second or third day. All the oxygen is absorbed from the gut within three hours.

BRANCH REPRESENTATIVES' MEETING, OXFORD, SEPTEMBER 15

Post-war Changes in Pharmaceutical Practice

THREE PAPERS AND DISCUSSION

REPRESENTATIVES of branches of the Pharmaceutical Society of Great Britain met in Oxford on September 13 to hear and discuss three papers on "Developments and Changes in Pharmaceutical Practice in Post-war Years."

THE PRESIDENT, in opening the proceedings, proposed that discussion should follow the reading of each paper in turn.

Scarcity Prices

Manufacturing aspects were in the care of MR. J. H. RAMSAY, F.P.S. (managing director, T. & H. Smith, Ltd., Edinburgh). He dealt first with the abolition of war-time controls. On the whole the controls, he said, had worked well. If quinine were taken as an example, manufacturer, wholesaler, retailer and physician had had a gentleman's agreement with the result that, for those diseases for which quinine was indicated, supplies were available. It was fair to say that the manufacturer had maintained supplies for the home trade for the period immediately after the War and during the disturbed period that followed. Where there had been real shortages of raw material, the home trade had been supplied and the export business had had to be fought for on a basis of scarcity prices. For example, ergot in 1946 cost approximately 5s. per lb.; in 1951 nearly 70s., and in 1954 about three times the 1946 figure; ipecacuanha in 1945 cost 16s. 6d. per lb.; in 1953, 50s.; and in 1954, 60s. per lb.; cocaine in 1947 cost 35s. 8d. per oz.; in 1951-54, 90s. 6d.

The partition of India in August 1947 into two separate Dominions—or one Dominion and a Republic—and the policy of the Government of India had affected supplies of opium to this country, yet home consumers were kept going with raw material and the alkaloids therefrom. There were, of course, alternative sources of supply of opium. The time lag between securing raw materials, shipping, processing and ultimately distributing finished products was so great that large stocks had to be held. If the market changed and prices fell, considerable losses had to be incurred. That had happened as the result of stock-piling due to the Korean war and the subsequent recession—both movements initiated in America. Stock-piling came to a sudden end, and large world stocks were then unloaded at reduced prices and uneconomic rates. Despite all the difficulties, the manufacturers of fine chemicals, pharmaceuticals, antibiotics and "ethical" specialties had not only supplied the increasing demands from the home market but had, in fact, increased exports to the value of £30·7 millions in 1953. In the past two or three years they had been faced with increasing competition from European manufacturers from both sides of the Iron Curtain, who were

endeavouring to secure export markets, based mainly on a lower price policy. There was some evidence that overseas manufacturers were helped by Government subsidies.

After the War the Government, through the Board of Trade, had launched a number of technical missions to the occupied countries in which the chemical industry was strongly represented. Factories in Germany had been dismantled in whole or in part, and reports on processes published and made available to manufacturers and others in this country. They were not blue prints but had had the effect of stimulating workers in Britain. An example was the synthetic analgesic now officially known as amidone, B.P.

Effect of N.H.S.

Probably the greatest event since the War had been the introduction of the National Health Service. In the pharmaceutical industry all sections had been materially affected inasmuch as the Government was now the chief single buyer; one-third of the output of the industry was used in the Service. When the National Health Service had come into being, the proportion of prescriptions for proprietaries had been about 6 per cent.; in 1949 it was 15 per cent. and it now stood at 25 per cent. That 25 per cent. accounted for about half of the total drug bill. The increased cost of medicines was largely offset by lower absenteeism, as modern drugs (e.g., antibiotics) had greatly reduced the duration of illness. It should also be borne in mind that many domestic remedies were now demanded on the EC10 form. The incidence of purchase tax and the conditional exemption of dispensing and hospital packs were a new element in pharmaceutical economy, and large sums of money had been spent to meet the conditions laid down. The Government's concern with the costs of the Health Service was evidenced when, in 1949, the Central and Scottish Health Services jointly appointed a committee "to consider and report from time to time whether it is desirable and practicable to restrict or discourage the prescribing by practitioners giving general medical services under the National Health Service Acts of 1946 and 1947 of (i) drugs and medicines of doubtful value or of unethical character; and (ii) unnecessarily expensive brands of standard drugs." The joint committee then constituted became known as the "Cohen" committee. The operation of the committee made it difficult for manufacturers to establish a market for preparations that had no proved medicinal value, or which were to be sold at prices considered high in comparison with standard preparations. The preparations falling into categories 5 and 6 had been the ones causing most concern to manu-

facturers, chiefly because of the misreading of the conditions laid down. To say that "a medicament or a preparation is not of proved therapeutic value" was not the same as to say "it has been proved of no therapeutic value." Further clinical research into many of those preparations, or rather the active ingredients therein, might, in fact, give them the standing they did not at present possess. The major work of investigation of the Cohen Committee had now been accomplished and a small permanent committee, again under the chairmanship of Sir Henry Cohen, had been established.

In January 1953, as a result of the third report from the Committee of Public Accounts, 1951-52, in which the view was expressed that the Ministry of Health and Department of Health for Scotland should "obtain information as to actual costs of production" as "the most effective method of testing the reasonableness of any prices whose fairness is not clearly established by competition," particular reference was made to drugs. Within the industry a "Level of Earnings Working Party" had been formed, and during the time taken to prepare that paper its deliberations were proceeding.

According to the Board of Trade index, pharmaceutical prices had gone up from 100 in June 1949 only to 101·7 in March 1954, while the prices of manufacturers generally had increased by 49 per cent. and costs and wages by 30 per cent.

American Aid to Europe had had repercussions upon British industry. Today, German export had reached one-third of its 1939 figure.

A word should be said about the Anglo-American Council on Productivity. Following the report issued by the pharmaceutical group, certain features had been pursued with energy, and in July 1953 the industry adopted the metric system; the sale of liquids by measure; and the non-return of small bottles, the cost of the latter being included in the charge for the medicament.

Technical Developments

The pharmaceutical industry had participated in the general advances in technique that had come into prominence during and since the War. The large-scale production of antibiotics had led to developments in biochemical engineering, with remarkable economies in costs. The first industrial synthesis of an antibiotic (chloramphenicol) and the production of modified forms (e.g., dihydrostreptomycin, tetracycline, a derivative of aureomycin) indicated the direction of future research in that field. In the field for formulation, increasing emphasis had been laid on the application of engineering. Thus the machine-made gelatin cap-

sule had virtually replaced the hand-made product, while new techniques for sugar-coating tablets had been announced, and were, in fact, in production in this country.

The costing of pharmaceutical manufactures had been the subject of examination by an expert committee appointed by the Association of British Pharmaceutical Industry. The committee had decided that it would be impracticable to advocate a uniform system of costing, because of the diversity of scale and function among the large number of undertakings constituting the industry. The committee's report, published in 1951, was a useful book of reference for those interested in that side of the industry. The need for management had been not only to know accurately its costs of production but also to introduce methods for reducing those costs. Considerable attention had been given to work study, and the tendency of manufacturers to standardise on a limited number of sizes of packs was the result of the operation of some of its principles. More manufacturers in the industry were beginning to realise the advantages production planning could bring. It would be unfair to the industry not to refer to the impetus given to research. Today it was estimated that £3,000,000 per annum was being spent on research. The tripartite nature of research was especially evident in the industry: (a) Fundamental: the search for new products. (b) Process: the continued effort to reduce costs by process improvement. (c) Formulation: improvement of presentation and, for example, prolongation or retardation of the effect of a drug.

Research Aims

A frequent objective of pharmaceutical research was modification of the structure of existing drugs, natural or synthetic, in an attempt to secure an enhanced or more specific action. To mention only two therapeutic classes, the numerous anticonvulsants and antibacterials that had been modelled on the original barbitone and sulphanilamide bore witness to the fruitfulness of that mode of activity. Even such an old-established drug as morphine had lately been challenged by competitors (e.g., pethidine) in which re-duplication of certain essential structural features of the prototype was now fully recognised.

Conscious imitation of existing drugs was, of course, supplemented by the synthesis and biological testing of entirely novel chemical series, and there was an increasing tendency towards the routine screening of new compounds, not just for one main activity, but for as many kinds of activity as possible. An example was pyridil carbinol, which was in great demand for loss of hair.

In the past few years many additions had been made to the older, well recognised classes of drugs, such as analgesics, local anaesthetics, etc., and new possibilities of treatment had been opened up. Antihistamines, so useful in allergic conditions, motion sickness and so on, had been unknown before the 1939-45 war, and the possi-

bility of anticoagulant therapy in heart disease and in the avoidance of post-operative embolisms had not then been realised. It was of interest to speculate whether ethyl biscoumacetate which had, officially at any rate, supplanted dicoumarol, would in its turn be ousted by phenylindandione or some other newer anticoagulants. Attention might also be drawn to the increasing use of hypotensive drugs of various chemical types; alkaloids derived from species of veratrum and rauwolfia, ganglion-blocking agents such as hexamethonium, and so on. The treatment of peptic ulcer had benefited from the introduction of newer potent anticholinergic drugs. So far as the surgeons were concerned, possibly the most considerable post-war benefit they had received had been the provision of the various muscle relaxants. To tubocurarine had been added decamethonium, suxamethonium, gallamine, mephenesin and others, each offering its special advantages.

The medical speciality of today might become the official drug of tomorrow, but only if well proved by clinical experience. That the rate of progress was accelerating was borne out by the number of drugs that were "household words," without yet being official (cortisone, ACTH, isoniazid and butazolidin).

The change in legislation resulting from the Patents Act, 1949, had had an additional effect in emphasising the importance of original research, since it was now possible to secure a sixteen-year monopoly in a product itself, and not merely, as before, in a process of manufacture. The reward of research was therefore greater.

The important changes in the B.P., 1948, reflected the progress made in clinical research and medical science, and the more modern routes of administration of drugs had led to the introduction of no fewer than fifty-seven new monographs for various injections. Other advances could be noted. An innovation was the publication by the General Medical Council of "approved names" for new drugs, with the intention that those names should become official if the drugs were eventually included in the B.P. It was hoped that the use of those names would lead to some reduction in the multiplicity of proprietary names.

The B.P., 1953, published five years after the previous edition, showed no material change in the general trend.

The Pharmaceutical Chemist

The pharmaceutical chemist, especially where he had a background of good practical training, was looked upon by the manufacturer as an extremely useful person, depending upon where his bent lay. He was acceptable in the control laboratory, process and manufacturing laboratory, in charge of the Dangerous Drugs and Poisons department, and amongst the executives. The manufacturing side, in fact, held out good prospects for the individual who brought the right attitude of mind to the job. In the field of research, however, the tendency was to

compose the spearhead at least of persons with B.Sc., Ph.D., degrees, chiefly because of the specialised nature of the work.

Discussion

MR. C. NORMAN, North Metropolitan, congratulated Mr. Ramsay on covering so many aspects of pharmaceutical industry. There were inevitably some omissions, notably about exports, and as he had some experience in that field he would mention some of the export difficulties manufacturers came up against. In India there was a system for ampoules that controlled exports of B.P. preparations. Licence numbers had to appear on labels. Originally the same labels would do for both Pakistan and India, but difficulties arose with the separation of the two countries, adding to costs. As for Germany, many companies had studied the technical missions' reports and gained useful information from them, but he could assure the meeting that Germany had gone a long way beyond those reports. Today the British chemical industry recognised in the German and Italian industries a serious menace. They in the chemical industry had a difficult problem in trying to meet Board of Trade recommendations to obtain maximum return from their exports, and the Ministry of Health insistence that costs should be reduced. The export price had to be registered with the health authority, and was based on the current domestic market. The cost in the export market depended on what the product was sold at in the British market. Scandinavia held a number of good markets for exports, but had price control; its wholesale industry was nationalised, and the next stage would be nationalisation of retail pharmacy.

MR. S. BUBB, Reading, welcomed the wide survey that Mr. Ramsay had given, adding that, as a retail pharmacist, he was far from criticising its findings. There were, however, certain common grounds between the manufacturer and the retailer, and one of them was the question of costs. He wondered whether even Mr. Hudson might not have fallen into the common error of confusing the cost of the drug bill with the cost of the National Health Service. Mr. Ramsay had told them that the cost of the drug bill had caused concern. As he (Mr. Bubb) saw it, the cost of the Health Service had not much to do with the cost of supplying drugs. They were told that the total cost of all medicines, including those supplied in hospitals, was £60 millions a year. He had not got the total cost of N.H.S., but he knew that it was well in excess of £400 millions a year. If all medicines of every kind were completely eliminated from the N.H.S., the cost of the Service would still be in the region of £400 millions a year. Let them, therefore, keep reminding the authorities that the drug bill was only a small proportion of the cost of the Service.

MR. C. W. ROBINSON, Liverpool, said that Mr. Ramsay had given them a remarkably comprehensive review of the post-war development of the pharmaceutical industry within the limits of a short paper. The main fact about

the post-war development of the industry was that the part of the output that went to export, as shown by the phenomenal increase in the export figures, was about the same as the part that went to the chemists' shops and the hospitals of this country for National Health Service needs. Mr. Ramsay had kept clear of pharmaceutical industrial politics. His personal opinion was that the politics of the pharmaceutical industry were nowadays taking up too large a share of the time of members of the boards of pharmaceutical companies and senior executives. This was because it was implicit in the setting up of the National Health Service that there should be an administrative machinery. Because of the public fear of rising costs and so forth, the administrative machinery, so far as it affected the pharmaceutical industry, had tended to become too complex. If there were simplification so that the people who had to think about the industry could be allowed to think about constructive things—the world situation, competing with Germany, and so on—it would redound to the benefit of the Health Service in this country and help them to free their minds of too much administrative detail.

Conservative Estimate?

MR. W. F. WILKINSON, West Metropolitan, who described himself as a non-manufacturing, non-academic pharmacist, commented on the conservative estimate of £3 millions a year mentioned as the amount spent on research, and the statement that fundamental research was the first aim of the industry's tripartite research policy. He was struck by the absence of British names in the products of fundamental research in the post-war years.

MR. V. REED, London, said that the authorities might do better to ask the medical profession to cut down on prescribing. He questioned whether the money spent on research should be added to the cost of the drugs.

MR. H. J. N. NEWITT, Wimbledon, said that although he wished to compliment Mr. Ramsay on his paper, he found in it one or two rather dubious statements. Any employer of labour would say that there was a big rise in short-term absenteeism. In 1934-35, the average stay of a patient in hospital had been 17·2 days. In 1953-54 that figure had increased to 18·1 days. Mr. Ramsay had said that "Further clinical research into many of these preparations, or rather the active ingredients therein, may in fact give them the standing which they do not at present possess." Were pharmacists to infer that they were being made to market and sell preparations which, in effect, had not had full medical control?

MR. P. J. FOWLER, Bristol, commented on Mr. Ramsay's reference to the large number of new drugs that had come into use since the war. The problems of pharmacist and doctor, he said, were great enough with all those new drugs; why must they have up to fifteen names for the same drug? It was serious from the pharmacist's point of

view, but much more so for the doctor. And more new names were arriving at the rate of four or five a week. That could not go on. It was time that the manufacturers, the General Medical Council, the Patents Office and all the other people concerned got together to approve all names before anyone was allowed to use them. The name approved, should the drug become widely used, should, he suggested, be the pharmacopoeial name. The manufacturer who had done the fundamental research on that drug should still have his rights for three years, or whatever period it was, but after that any manufacturer should be able to put it on the market with the same name.

MR. H. J. SEATH, Eastbourne, asked why, with all the thousands of pounds spent on research, they had such an unsatisfactory preparation as a calamine lotion in the B.P.

MR. J. D. MAIR, Glasgow, thought that retail pharmacists were justified in asking manufacturers to give more consideration to dispensing difficulties. He had in mind the quantities that they persisted in packing. One product came in a 1½-oz. tube, and difficulties arose because they got prescriptions for 1 oz. and 2 oz. It was true that the pharmacist had the right to endorse, but there was a grave danger of misunderstanding being caused between prescriber and dispenser. Manufacturers should give serious thought to standardisation of quantities for both internal and external preparations.

Cost of Research

MR. L. H. BOARDMAN, Manchester, did not think there were in fact more than six companies in the pharmaceutical industry of this country that could possibly do fundamental research. The expense of it was far too great. A research team of even four persons would cost the company at least £6,000 a year, and the average company had shareholders to consider; it was a large sum to take out of the profits of a small undertaking. In Manchester they had a joint research council, of which he was a member, and recently they had had a long discussion at the University with members of the industry in Lancashire and district, and found that only half a dozen firms were doing fundamental research. It should be left largely to the universities. They deplored the fact that they could not produce something in the way of new products as Germany, Italy and America did, but let them keep their feet on the ground. Costs and the high rate of taxation in this country were the bane of fundamental research.

MR. W. T. REES, Cheltenham, said that it had been refreshing for a Branch Representatives' meeting to listen to an outline of the difficulties of the manufacturing pharmaceutical industry in this country. From Mr. Ramsay's notes and the remarks of another speaker, he sensed something of a complaint about the activities of the Cohen committee. The complaint seemed to be that there were countries

broad that would not accept new preparations that were included in categories 5 and 6. As a retailer, he would like to tell the manufacturers that the retailers of this country themselves did not welcome the multiplicity of products in those categories that they were called upon to handle. The manufacturer of "ethicals" today was doing the retail pharmacists out of legitimate dispensing when he treated them as so incompetent that they must be given their preparations of penicillin and restricted to dropping a couple of tablets into a bottle. It was done either because the manufacturer got a higher price or because he thought them incapable of making calculations.

MR. F. H. OLIVER, Sunderland, questioned Mr. Ramsay's statement that in the field of research the tendency was to compose the spearhead at least of persons with B.Sc., Ph.D. degrees. That might have been true a few years ago, but would he not agree that today the spearhead was the B.Pharm., Ph.D.?

MR. P. CREE, Birmingham, asked if figures were available to show what proportion of the £3 millions mentioned was spent on fundamental research. There was justification for a high price if that research was devoted to process and formulation researches, which tended to reduce prices. Artificially high levels should not be maintained. There was overlapping because firms engaged on parallel lines of research, and it would be interesting to know how much was spent on minor modifications to get round patents, and activities of that sort.

"Big Business"

MR. M. JACKSON, Leeds, said that they must accept, and not merely deplore, the fact that pharmacy was now a big business, and the pharmacist only a cog in the wheel. To his mind, pharmaceutical control in manufacturing was reduced to an absolute minimum; the pharmacist was merely there, though he might have originated the product. It was obvious that their interest in penicillin, for example, had been lost to the manufacturer with mechanisation, and that state of affairs had come to stay.

MR. RAMSAY, in his reply to the discussion, said that if all had been as interested in his paper as he had been in the criticisms, they would be mutually satisfied. It was impossible to reply to them all in the few minutes that remained, though he would be glad to continue the discussion elsewhere. Mr. Norman's contribution had been an addition to his remarks about exports, and not a criticism. The currency question was important, and the pharmaceutical industry suffered from the restrictions along with others. He agreed that there was a lesson to be learned from the Scandinavians—in what not to do. He still held that it was not pharmacy's affair to analyse the costs of N.H.S. He agreed with Mr. Robinson that the sooner high executives were freed from spending too much time on pharmaceutical politics the better it would be. On Mr. Wil-

kinson's comments on research work in this and other countries, he would say that there was a great tendency for research workers, in whatever field, to rush in and be first with it. It was high time that they took a few years to test their product before launching it. The situation today would be much worse if they had followed the example of some other countries. Mr. Reed, he thought, must be facetious in suggesting that nothing had been done to reduce prices. He had been very interested in this, and about a month ago had asked the company's manager why people were absent. The reply had been, "It's these married women: they stay away when they are ill themselves, when their husbands are ill, and when wee Johnnie is ill." In reply to Mr. Fowler, he said they were not so stupid in the wholesale trade as they looked, and while overlapping could not be completely abolished, some arrangement was provided to control it. He appreciated the point about leaving fundamental research to the universities, but would add that it took a long time for universities to produce anything. He would be sorry to see the personal and enterprising work of the freelance company abo'ished from research.

Hospital Pharmacy Developments

MR. A. STERLING, F.P.S. (chief pharmacist, St. George's Hospital, London), dealt with developments in hospital pharmaceutical practice. He said that pharmacy had had to keep in step with the tremendous advances made in science and medicine since 1939. The hospital pharmacist had found it necessary to develop a good general knowledge of pharmaceutics and pharmacology to meet the advances.

Polypharmacy was decreasing, and there was now a greater tendency towards the prescribing of a single chemical substance. There had been a decrease in the volume and range of stock mixtures dispensed, and a reduction in extemporaneous dispensing. In some hospitals that might be offset by the increased number of items dispensed for individual patients. The hospitals were developing the dispensing of more complicated and newer kinds of medicine. Many had developed or extended their laboratories. Many useful contributions to the formulation of antibiotics had been made by hospital pharmacists in the early days of civilian penicillin treatment. Accurate assessments of manufacturing costs were difficult in hospital but in general there was a stricter control in the selection of items manufactured and fuller co-operation with the hospital finance officer. The increased use and range of parenteral injections had led to the establishment of sterile products laboratories. Considerable economy could be effected by making certain injection solutions. In post-war years many pharmacists had been directly concerned with blood-transfusion work and had developed technical aspects. In general, the hospital pharmacist was well equipped to investigate many practical problems and was in a better position to achieve the help and co-

operation of other specialists in the hospital. The hospital authorities were now more inclined to provide facilities for original investigational work.

The introduction of the National Health Service had been the greatest event in hospital pharmacy in post-war years. Before 1948 there were two main classes: voluntary hospitals and those managed by the municipal or county authorities. In the voluntary hospitals the pharmacist had had insufficient qualified assistance, and often inadequate equipment and premises, and difficulty of access to the governing committees. In the local-government hospitals the same difficulties arose, and there were often further difficulties due to the existence of a central purchasing department. In the new Service the hospitals came under one authority and were grouped to produce a unit of approximately 1,000 beds. Before 1948, the hospital pharmaceutical departments had functioned as individual units and many hospitals had had no properly organised service under the control of a pharmacist. Now there was co-ordination and co-operation between the departments of a group. There was still room for considerable reorganisation in order to integrate the pharmaceutical service more strongly than at present.

The hospital pharmaceutical department was a self-governing unit of the hospital. The pharmacist was responsible to himself and did not perform his duties under supervision. Nevertheless, his position was not clearly defined, nor had the necessity of the appointment of a pharmacist been universally accepted. There had been much discussion on group pharmacists, and in some groups local arrangements had been made. Pharmacists were of opinion that the appointment of a group pharmacist must not prejudice the position of chief pharmacists in the group. Whatever the outcome there must be adequate liaison between the pharmacists and the governing authority. Hospital pharmacists were by no means satisfied with the National Whitley Council recommendations concerning remuneration and conditions of service. That was having an adverse effect on the service.

Shortage of Recruits

There was a grave shortage of recruits, and the position had deteriorated since 1949. Many pharmacists of the right calibre had left the service and hospitals could not get suitable replacements. Many hospitals had closed down laboratories and curtailed activities. In general, there was a lack of accommodation, but the demands of N.H.S. were forcing improved accommodation.

The hospital pharmacist usually had the responsibility for selecting and storing pharmaceutical goods but not always a free hand in selecting sources of supply, quantities and control of receipt. The problem of bulk buying had been discussed at great length. The unit had still to be decided. Should it be a regional or hospital group or otherwise? There was always the danger

that the cost of running a complicated costing system would be in excess of any saving expected from its application. Chief pharmacists now had responsibility for an increased expenditure on drugs. Antibiotics, for instance, could account for 33-40 per cent. of the annual expenditure on drugs. Hospital prescribing practice was now more carefully scrutinised and various "economy committees" had been formed and measures adopted to reduce expenditure.

For the future, the hospital pharmacist must strive to show his capabilities to the full.

MR. N. FRANCIS, Portsmouth, offered what he called the "germ of an idea" for helping to solve the problem of recruitment to the hospital service: to suggest to the authorities an inquiry into the possibility of treating hospital service as an essential part of the National Service of a newly qualified man. That might be done in a manner that would help hospital pharmacists to improve their conditions. Such a scheme would be for the good of the student who had much to learn that he could usefully learn in hospital. It would provide labour that the hospitals sadly needed, and the student would come out better both as an individual and as a pharmacist. He admitted that legislation would probably be necessary before his suggestion could be carried into effect.

MR. K. HOLLAND, Romford, had found great variation in hospital groups. Some consisted of one or two large hospitals well served pharmaceutically. Others included only one large hospital, with only one pharmacist, who had all his work cut out to serve the needs of his own hospital. There were intermediate formations. Variation of groups was a menace. A small group of "get-together" pharmacists was overdue, and a suitable area was the region. Such a regional committee would have a regional pharmaceutical officer, and its duty would be to make all pharmaceutical appointments, to lay down conditions, and see that every hospital in the region received good pharmaceutical services. They should press for this, and thus take hospital pharmaceutical practice out of the hands of people who were not pharmacists.

Polypharmacy in a New Guise

MR. R. L. STEPHENS, Brighton, congratulated Mr. Sterling on having given them an insight into developments in hospital pharmacy. His own feeling was that polypharmacy in a new guise was increasing, in the form of "prescription proprietaries," the term which he believed was preferred to "ethical preparations." Two forms of polypharmacy were growing up. One was a combination of sulphonamides with antibiotics—not a bad form—which enabled the practitioner to give a medicament no matter what form of bacteria he had to kill. The second form was that of a rapid-acting drug combined with a slow-acting one. There was, however, a third and less desirable form of polypharmacy which he saw increasing, and that was the combina-

tion of a potent drug with a less potent drug under some benevolent-sounding name which did not suggest the potent drug at all. There was, for instance, the combination of a potent spasmolytic such as atropine with, say, a simple antacid. After a few months of using this, did the doctor remember that that simple and apparently harmless preparation contained atropine?

MR. P. CREEES, Birmingham, said that Mr. Sterling's brief reference to pharmaceutical supplies missed the significance of activities in the Birmingham district which were already in being before 1948. When the appointed day came they had already established a joint purchasing scheme under the control of chief pharmacists, which they were able to hand over "on a plate." That position held today, and it showed the importance of pharmacists themselves taking the initiative. Too little thought, Mr. Crees continued, was being given to establishing the position of pharmacists in the Service. Retail took over all sorts of ideas into hospital practice. So did the chain store. It was time to think things out anew and to cease taking over old ideas.

MR. E. E. LOCKER, Reading, wholeheartedly supported the idea that service in hospitals should be counted as national service and as practical training. Reading had put that forward some years ago, but had been shouted down on the ground that it was a proposal for cheap labour. There was far more in it than met the eye, and the Council should seriously consider the suggestion and develop it.

MR. B. SMITH, North Staffordshire, said that hospital pharmacopœias were nowadays only supplementary to the National Formulary. He had found in two hospitals that when one made suggestions to a doctor on such matters it was regarded as quite miraculous that a pharmacist could do so. Quite often, the only books on pharmacology were in the pharmacist's department.

MISS M. J. HINCKS, Slough, said that she would like to contribute to the discussion a little discovery that she had made. In reorganising to meet staff difficulties she had altered the department's policy completely, and instead of making everything that it was pharmaceutically possible to make bought everything it was pharmaceutically possible to buy. The result was that they spent £50 a month more. They were now making things again.

MR. T. W. FISHER, Leeds, said that, in retail pharmacy, polypharmacy was still very much with them. The question of the supplies officer versus the chief pharmacist was a large problem, but those who were on local Pharmaceutical Committees could help their hospital colleagues by putting pressure wherever possible locally through the Executive Council. It was unfortunate that no pharmacist as such could be appointed to a regional hospital board, but there was no reason why he should not be appointed in some other capacity. He begged the meeting not to consider making hospital service optional in lieu of military service. If that were permitted, they would get every dodger of military service flooding in.

MR. E. W. G. DILKES, Walsall, said a word of warning was needed on this question of contracts. They were committed to the contract in order to effect an economy, but economy could not be expected to go beyond a certain limit. Once the organisation had been built up into something large the economy ceased to be effective. There must be an administration, as in the Birmingham area, and there was a point at which it began to encroach on the chief pharmacist's time so that he was either working for nothing or else was using his working time on contracts. There must be a limit to the size of the contracting body. They could beat the Government on the price list. If they adopted the policy that had been adopted in Walsall, which was to have a pharmacist as supplies officer, all trouble at once ceased. In his area they had been able to publish accounts that showed a saving over twelve months of £500, not including service rendered by dispensing antibiotics for the group free of charge. He wondered whether a statement the other day by Dr. Davis was to be taken as the writing on the wall. The vision Dr. Davis saw was that of one qualified person supervising quite a number of unqualified technicians. There were a lot of processes that could be performed under qualified control by technicians, but they did not want to see one pharmacist in a hospital with the rest of his staff unqualified.

Substitution Unwarranted

MR. W. TRILLWOOD, Oxford, hoped that the time would not arrive when, tired of waiting for the publication of the Linstead report, some of them would begin "spilling the beans" about it. He was not doing that when he said that quite a lot of the things they wanted to know were in that report and that they had not been given a fair summary of what the report contained. So far as chemicals and drugs were concerned, the pharmacist was the supplies officer, and if anybody else did that work they could "get him" on legal grounds. It was unwarranted for a hospital pharmacist to substitute a preparation for its equivalent, yet it was a practice that hospital pharmacists had adopted for economy.

MISS ALLEN, London, as a visitor, welcomed the opportunity of saying something about Mr. Sterling's very fair report, though she hoped that one statement was not true, namely, that the chief pharmacists were now responsible for an increased expenditure on drugs, and were the cause of it. On the administrative side, the National Health Service was a great event indeed. It was much easier than before to get to the governing body of the hospital, especially in the teaching hospitals. With regard to supplies and supplies officers, she felt that many more pharmacists had satisfactory arrangements in that respect than unsatisfactory. Where a hospital pharmacist was still in difficulty with a supplies officer or on any other matter, it was up to the pharmacist to make a change. Unless they fought for themselves no one would fight for them. She hoped that

all pharmacists, as well as those in hospitals, would press for publication of the Linstead report. Staffing problems, most difficult at the moment, would not be changed until there were greatly improved salaries.

MR. STERLING then replied to points made by speakers. To the suggestion that recruitment into the hospital service should be treated as part of national service, he was strongly opposed. There must be no conscription into professional service. The attraction must be by other means, possibly salaries. His reference to polypharmacy had been to the extemporaneous polypharmacy before the war. That had decreased in hospitals. They still had polypharmacy in another form. There would have to be some form of grouping, either of the whole pharmaceutical service or on a regional or smaller basis: that was bound to come. Group appointments would have to be made to fit in with the requirements of the service. He agreed with Mr. Smith that hospital pharmacopœias were now supplementary to the National Formulary. It was a point that had been made in an article in THE CHEMIST AND DRUGGIST. Mr. Sterling expressed his sympathy with Miss Hincks in her staffing difficulties. He thought they had to be careful about manufacturing. It was important to get sound financial backing to manufacturing projects. They must work with the financial side of the hospital and get them to do a lot of the donkey work; pharmacists themselves must produce satisfactory evidence that manufacturing was worth while. He agreed with Mr. Dilkes that there was a limit to the usefulness of bulk buying and contracts, and that administration could be costly beyond a certain point. He thought that there was a place in hospital pharmacy for pharmaceutical technicians, particularly in the storage of products and in laboratories. But there was a limit to the number that could be employed if there was to be adequate supervision by pharmacists. He wholeheartedly agreed that the Linstead report should be published in full, and that they all see it. He was sorry to have given Miss Allen the impression that group pharmacists were responsible for increased drug costs. The fact was that chief pharmacists now controlled a greatly increased expenditure on drugs in hospitals, though they were not themselves responsible for the increase.

(To be concluded)



Dr. D. McCall (Pharmaceutical Society's resident secretary in Scotland) with Dr. G. R. Boyes (Conference chairman in 1953) at the Oxford meeting of the British Pharmaceutical Conference.

DEVELOPMENTS IN THE UNITED STATES

A SAFE enzyme inhibitor that would halt acid formation for twelve hours or more without disturbing the bacterial population of the mouth would effectively prevent cavities in teeth, according to Dr. R. S. Manly (director of dental research projects at Tufts College Dental School, Medford, Massachusetts). Of 1,400 compounds investigated by Dr. Manly as possible anti-enzymes, 140 were shown by tests to reduce mouth acidity by at least 50 per cent. for a period of one hour or more. Many of the 140 would have to be discarded as poisonous. As yet there was no way of knowing how many of the remainder could be satisfactorily combined with the necessary ingredients of tooth-pastes and other dentifrices. Dr. Manly believes that carbohydrates taken into the mouth pass into the bacterial plaque on the surface of the teeth. There, bacteria, acting through their enzyme systems, transform the carbohydrate into acid that pits the enamel of the teeth, allowing decay to proceed. Dr. Manly points out that brushing the teeth after meals removes the carbohydrates and plaque but is limited because many tooth surfaces cannot be reached by the brush. Penicillin removes the acid-forming bacteria but continual use might cause development of resistant strains of organisms or produce undesirable changes in bacterial population in the mouth. Another method is to use a buffer, such as urea, that neutralises the acid as it is formed. So far the effect of that had been transient. Attempts to harden the enamel surface by brushing with a fluoride, he states, brings up the problem of how to get the fluoride through the plaque to the teeth. Noting that anti-enzymes apparently do not have to upset the bacterial population of the mouth, Dr. Manly states that he has developed apparatus for screening those materials. Salivary sediment, which is very similar to tooth plaque, is held against a glass electrode. A glucose solution is then brought into contact with the sediment, and is converted to acid by bacterial enzymes. Test solutions of the drugs under examination are added to the glucose and the drop in acidity recorded through the electrode. A third reading is made after the drug has been removed.

Irradiating Diseased Plants

Dr. Paul Waggoner (plant pathologist at the Connecticut Agricultural Experiment Station, New Haven, Conn.) has found that ionising radiation can partially check the effects of fusarium wilt, a fungus-caused disease which attacks a wide variety of plants. While the attempt to control plant diseases by use of atomic energy is not new, in previously reported cases disease control has been brought about by the development of plant mutations. A few of the plants subjected to radiation, "mutate" or change genetically in such a way that they become resistant to the disease. Such resistance can be inherited by the next generation of plants. In Dr. Waggoner's experiments,

which are being carried out under a contract with the Atomic Energy Commission, no such genetic change has occurred. Rather, the effect of radiation in producing disease resistance appears to be a direct one. All of the plants, not just a few mutations, become resistant to some extent. The Connecticut plant pathologist's recent work has evolved from a long series of experiments conducted at the station. Vascular wilt diseases, like Fusarium wilt, were chosen for radiation experiments because they are common and because, by and large, no controls are known for them. The approach tried at first was "specific toxicity"—that is, trying to find a dose of radiation which would control the disease without killing the plant. Those experiments were unsuccessful; in all cases the plants died before the disease was checked. However, they did yield one interesting discovery; plants nearer the radiation source (in this case γ radiation in an outdoor field at Brookhaven National Laboratory on Long Island, New York) were more severely diseased than those at a distance from it. The same effect was observed in New Haven where very high dosages of x -ray radiation were used. Plants irradiated in the morning were inoculated with the wilt fungus the same afternoon, and all proved to be highly susceptible to the disease. However, when a low radiation dose was used and disease inoculation delayed until several days after the plants were exposed to radiation, the effect was reversed. Disease resistance was 50 per cent. greater than in check plants which received no radiation. With very high dosages and the long time lag between irradiation and inoculation, the plants were almost completely immune to disease. However, the stunting effect of the high radiation dose was great, while, with smaller dosages, it was negligible. If Dr. Waggoner's experiments are successful on a larger scale, it may be possible to irradiate farm crops to protect them from wilt diseases. With small plants that could be done quite cheaply and simply. One disease which Dr. Waggoner is hopefully considering from this standpoint is verticillium wilt of potatoes, a serious disease for which no control has up to the present been discovered.

Longer-life Insecticides

The addition of chemical "extenders" to some insecticide sprays greatly increases the time they remain lethal against insects, according to the U.S. Department of Agricultural Research Service. In comparative tests carried out by chemists and entomologists, DDT oil solution sprayed on the foliage of spruce and pine trees was effective against flies for less than fifteen days. However, when methyl ethyl ketone was used instead of oil as solvent for DDT, spray residues on the foliage killed flies for sixty days or longer. Similarly, according to the Government chemists, the lasting effect of other insecticides, such as aldrin and lindane, was improved by addition of

chlorinated terphenyls to the spray. When used as normal oil or emulsion sprays, aldrin and lindane retain their fly-killing ability less than ten days under outdoor weather conditions. In combination with the chemical extender, they provided nearly perfect fly control for more than 102 days. Applied as an oil-base spray, DDT does not form long-lasting residues on foliage because the oil (carrying the DDT) penetrates into the leaf. However, when a highly volatile solvent such as methyl ethyl ketone is substituted for the oil in DDT sprays, it quickly vaporises when sprayed so that only a residue of DDT remains on the foliage surface. With aldrin and lindane sprays, using methyl ethyl ketone in place of oil only partially solves the problem of making those foliage sprays long-lived. Unlike DDT, those two insecticides are relatively volatile materials themselves. The rate of evaporation was slowed down by adding a chlorinated terphenyl to the spray solution. Those insecticides are soluble in the non-volatile chlorinated terphenyls and as a result the vapour pressure of the insecticide is lowered. When methyl ethyl ketone insecticide sprays were applied with either a power sprayer or mist blower, very concentrated solutions containing approximately 50 per cent. by weight of the insecticide extender were used. The methyl ethyl ketone began to evaporate almost as soon as the spray left the nozzle. As the material evaporated the spray droplets became small insecticidal pellets averaging between 50-100 microns (about 1/250 to 1/300 in.) in diameter, which carried for relatively long distances. The pellets adhered strongly to such target surfaces as foliage, forming a uniform deposit over the leaf or branch, but not penetrating or otherwise damaging it. The residues did not readily wash or weather away. The Government research workers applied the test sprays to pine and spruce trees. At intervals twigs were cut from the sprayed trees and taken into the laboratory to be tested against flies. During the test period, begun in the autumn, daily temperatures varied from as high as 80 to as low as 23° F. More than 8·5 in. of rain and snow fell during the period in which the tests were conducted.

Fresh Water From Brine

A device which extracts fresh water from sea water using an osmotic oil membrane has been constructed by Gerald Hassler (a University of California engineer). The membrane is an extremely thin oil layer supported by capillary action. Water molecules can diffuse through it while other molecules are blocked. He believes he can ultimately produce a cubic-yard pack of oil membranes capable of producing 2,000 gall. of fresh water a day. The unit would cost about \$1,000 and last some twenty years.

In studies carried out by the U.S. Army Quartermaster Corps, cockroaches have been indicated as carriers of such human diseases as gastroenteritis, typhoid fever and poliomyelitis.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, SEPTEMBER 22: The prices of most CRUDE DRUGS were fully maintained during the week despite a general lack of inquiry. Holders of MENTHOL made tentative offers at about 33s. per lb., duty paid, whilst c.i.f. quotations eased by sixpence per lb.

In ESSENTIAL OILS, ANISE was increased by another 1s. 3d. per lb. and Chinese PEPPERMINT by sixpence. Ceylon CITRONELLA was steady but the Formosan became slightly easier. PETITGRAIN at 30s. was up by 2s. per lb. LEMONGRASS after some easing during the early part of the week regained its previous price level for shipment.

CINCHONA bark stocks are less plentiful and prices are reported to be more stable than they have been for several years. The position of manufacturing bark has undergone considerable change recently since surplus supplies in Africa have been run down as more lucrative crops attracted the labour elsewhere. It is believed that that situation has already had an effect on tenders for quinine in some countries where for the past two or three years very low prices have been quoted against government contracts. HONEY is in fair demand because of an almost complete failure of the home crop. Most varieties of PEPPER were marked up and whilst CARDAMOMS (Aleppy greens) were sixpence a lb. dearer for shipment, spot quotations were withdrawn, Ceylon CINNAMON bark received another boost the OOOO being quoted now at 5s. 8d. per lb., c.i.f., against 4s. three months ago. In AROMATIC SEEDS, Indian DILL is scarce on the spot while FENUGREEK prices are firm. All grades of SHELLAC were dearer on the spot in sympathy with firm conditions in the Calcutta market. Shipments of shellac from Indian during August amounted to 17,019 packages against 16,346 in July. The United Kingdom received 4,200 packages, the United States, 3,095 and the Continent, 5,136.

	U.K.	U.S.	EUROPE
	bales	bales	bales
LEAVES	165	—	744
PODS	152	80	187

The table shows amounts of SENNA shipped from Tuticorin in August.

EXCHANGE RATES ON LONDON

At the opening on Wednesday

Alexandria	Piastres to £	971-97½
Amsterdam	Florins to £	10.56-10.72
Bombay ...	Shillings to rupee	1/5 18-1/6 18
Brussels ...	Francs to £	138.95-141.05
Copenhagen	Kronor to £	19.19-19.48½
Hong Kong	Shillings to \$	1/2 3½-1/2 3½
Karachi ...	Shillings to rupee	2/1 3½-2/1 3½
Lisbon	Escudos to £	79.90-81.10
Montreal	T.T. Dollars to £	2.70-2.71½
New York	T.T. Dollars to £	2.78-2.82
Oslo	Kronor to £	19.85-20.15
Paris	Francs to £	972.6-987.3
Stockholm	Kronor to £	14.37½-14.59½

*Free market rates; remainder Bank of England.

The quality and colour of the senna is described as good but arrivals at the port from the growing areas are becoming scarce. Seventeen tons of RAUWOLFIA *Serpentina* were shipped during August from Tuticorin to the U.S., 2 tons to Hamburg but none to the U.K.

Pharmaceutical Chemicals

AMIDOPYRIN.—In 1-cwt. lots the price is 24s. 6d. per lb.

AMMONIUM CHLORIDE, B.P.—Makers quote 1-cwt. lots at 6ls. 6d.

AMPHETAMINE.—Prices (per kilo) for 25-kilo lots are as follows:—BASE, 160s.; SULPHATE, 130s.; d-Amphetamine, 550s.

ANTIMONY SALTS.—Quotations for POTASSIUM TARTRATE, B.P., are 7s. 6d. per lb. for 1-10 cwt. and SODIUM TARTRATE, B.P., 13s. 3d.

BENTONITE.—Offers of B.P. material are about £70 per ton as to quantity.

BENZOCAINE.—Minimum price for B.P. is 20s. 6d. per lb.

BENZOIC ACID.—1-cwt. lots are 3s. 0½d. per lb. The SODIUM SALT is 2s. 10½d. per lb. in 1-cwt. lots.

BENZYL BENZOATE.—Makers' offers of B.P. grade range from 4s. per lb. for 1-ton lots to 6s. 9d. for smallest quantities.

BRUCINE.—ALKALOID is from 1s. 8d. to 1s. 9½d. per oz. and NITRATE and SULPHATE from 1s. 7d. to 1s. 8½d. per oz., as to quantity.

CALAMINE.—1-cwt. lots are 1s. 7d. per lb.; 10-cwt., 1s. 5½d.

CALCIUM PANTOTHENATE.—Price per kilo is £32 10s.

CHLORAL HYDRATE.—In 1-cwt. lots the price is from 3s. 10d. per lb. as to holder.

CHLOROBUTOL.—28-lb. lots are at the rate of 10s. per lb.

CHLOROXYLENOL.—B.P. quality is quoted at 6s. 9d. per lb. for 1-cwt. lots.

CINCHOPHEN.—1-cwt. lots are quoted at 21s. per lb.

CITRATES.—Rates (per lb.) are as follows:—POTASSIUM, 1-cwt. lots, 3s. 6½d.; 28-lb., 4s. 6d.; SODIUM, 1-cwt., 2s. 11½d.; 28-lb., 3s. 10d. (powder of both salts two-pence more). IRON AND AMMONIUM, 1-cwt. lots, 3s. 10½d. granulated, 4s. 2½d. scales.

CRESOL.—Price of B.P. quality from distillers is 7s. 9d. per gall. in 5-gall. lots.

CYCLOBARBITONE.—B.P.C. and CALCIUM DERIVATIVES in 1-cwt. lots are 65s. per lb.

GALLIC ACID.—B.P.C. is 8s. 1d. per lb. for 1-cwt. lots.

MAGNESIUM OXIDE, B.P.—Bulk rates are as follows:—LIGHT, 3s. 3d. per lb., and HEAVY, 5s. 4d. per lb. for minimum 1-ton lots.

METHYLPHENOBARBITONE.—B.P. is 45s. per lb. (1-cwt. lots).

OLEIC ACID.—Price for B.P. is about 15s. per cwt.

POTASSIUM ACETATE.—B.P. is 2s. 8d. per lb. in 1-cwt. lots.

PROCaine HYDROCHLORIDE.—1-cwt. lots are 30s. per lb.

SACCHARIN.—In lots of 1-lb. and over B.P.C. powder is quoted at 99s. 10d. per lb., the SODIUM SALT is 80s. 10d. per lb. Prices include duty and carriage.

SODIUM CARBONATE.—B.P. exsiccated is 60s. 6d. per cwt.

SODIUM CHLORIDE.—Re-crystallised is 20s. per cwt.

SODIUM PERBORATE.—Prices (per cwt.) are 142s. 9d. in 1-cwt. kegs; 135s. 3d. in 1-cwt. bags for B.P.C. (minimum 10 per cent. available oxygen). Other strengths pro rata. The PERBORATE MONOHYDRATE testing 15 per cent. available oxygen is 30s. 3d. per cwt.

SODIUM PERCARBONATE.—1-cwt. kegs are about 163s. (bags 7s. 6d. lower) for minimum 12½ per cent. available oxygen.

SODIUM SALICYLATE.—Rates are: 1-ton lots in bulk, 3s. 5d. per lb.; 5-cwt., 3s. 5½d.; 1-cwt., 3s. 6d.

SODIUM SULPHITE.—1-ton lots of ANHYDROUS (48-50 per cent.) are £62 per ton in 1-cwt. drums; CRYSTALS, B.P.C., £38 17s. 6d. in kegs and £30 12s. 6d. in paper-lined bags.

Crude Drugs

AGAR.—Kobé No. 1 on the spot is from 16s. 6d. per lb., duty paid. Shipment, 14s. 3d., c.i.f.

ANISEED.—Chinese star is offered at 170s. per cwt., duty paid.

ANTIMONY.—English 99·6 per cent., £222 10s.; 99 per cent., £210 per ton.

ARECA NUTS.—Quotations are about 45s. per cwt. for Ceylon material on the spot. Shipment, 42s. 6d., c.i.f.

ASAFETIDA.—Persian block is from £10 to £14 per cwt., duty paid, as to quality.

BALSAMS.—Quotations (per lb.) are:—Canada: 20s., spot, Copiba, B.P., 11s. 6d., nominal. Peru is 9s. 6d., in bond. Tolu (genuine as imported), 26s. 6d. spot and 26s., c.i.f.

BENZINO.—Sumatra block No. 1 on the spot is from £27 10s. to £29 per cwt.

BISMUTH METAL.—Minimum rate is 16s. per lb.

BUCHU.—Scarce. No shipment offers. Spot supplies of new crop are scarce at 5s. 3d. per lb. nominal.

CARDAMOMS.—Firm, Aleppy greens are nominal on the spot; October shipment offers are 14s. per lb., c.i.f.

CASCARA SAGRADA.—New-crop, 230s. per cwt., c.i.f., London. Spot material (old-crop) value is 310s., duty paid.

CASSIA BARK.—Whole on the spot is about 90s. per cwt., in bond, and for forward delivery, 75s. c.i.f. Broken 78s., in bond, and 66s., c.i.f.

CHAMOMILE.—Belgian flowers are 5s. to 5s. 6d. per lb. on the spot.

CINCHONA.—Parcels of British East African bark testing 8 per cent. upwards total alkaloids vary in price from 1s. 9d. to 2s.

CINNAMON.—Firm, Ceylon for shipment (c.i.f.), per lb.; OOOO, 5s. 8d.; quillings, 3s. 6½d.; chips, 8½d.

COLOCYNTH PULP.—Supplies have been cleared on the spot and there are no offers for shipment.

COLCHICUM.—Corms on spot are offering at 2s. 3d. per lb., and seeds, 6s.

ERGOT.—Portuguese is 15s. 6d. per lb., c.i.f., for prompt shipment. East European, 16s. on the spot.

GUM ACACIA.—Kordofan cleaned sorts on the spot are quoted at 142s. 6d. per cwt.; September-October shipment, 136s., c.i.f.

HENNA.—Indian is 105s. and Egyptian, 130s. to 140s. per cwt. on the spot.

HONEY.—Quiet. Australian light-amber is offered on the spot at from 95s. to 105s. per cwt. and medium-amber, 90s. to 95s. Argentine is in short supply at from 115s. to 117s. Jamaican, from 120s. to 130s.

HYDRASTIS.—Root is 18s. per lb., on the spot.

IPECACUANHA.—Unchanged. Shipment offers include (per lb., c.i.f.): Nicaraguan, 56s.; Colombian, 52s. 6d. Colombian on the spot is scarce at 57s.

KARAYA.—No. 1 gum on the spot is quoted at 265s. per cwt., and 235s. for shipment, and No. 2 at 175s. and 160s., c.i.f.

KOLA NUT.—African halves are available on the spot at 5½d. per lb.

LANOLIN.—In 1-ton lots the price of ANHYDROUS, B.P., is about 200s. per cwt. and HYDROUS, B.P., 145s.

LIQUORICE.—Natural whole root, spot: Anatolian, 60s. per cwt.; Russian, 40s.; Syrian, 35s.; Persian, 37s. 6d. Block juice quotations are 220s. per cwt. on the spot. Italian stick from 310s. to 475s. per cwt., duty paid.

LOBELIA.—Herb is nominal at 5s. per lb. on the spot.

MACE.—West Indian pale blade is 9s. per lb.; for shipment, 7s. 10d., c.i.f.

MENTHOL.—Chinese is offered at 33s. per lb., duty paid. Forward, 31s., c.i.f.

MERCURY.—Nominal spot value is advanced to £105 per flask (76-lb.), ex-warehouse.

MYRRH.—Aden selected sorts are about £14 10s. per cwt. on the spot. Siftings are from £7.

NUTMEGS.—West Indian 80's quoted at 2s. 10d. per lb. on the spot and 2s. 7d. c.i.f., for shipment.

PAPAIN.—Spot value for East African grade one is 18s. per lb.

PEPPER.—Firmer. White Sarawak is 5s. 7½d. per lb., spot, with afloat parcels quoted at 4s. 9d., c.i.f. Black Sarawak is 4s. 9d. spot; afloat 4s. to 4s. 3d. Black Malabar, 600s. per cwt. with September shipment quoted at 510s., c.i.f.

PIMENTO.—New-crop price fixed at 250s. per cwt., f.o.b. Jamaica. Nominal spot price is 7s. 3d. per lb.

PODOPHYLLUM.—*Peltatum* is 336s. per cwt. on the spot. *Emodi* is 145s.

QUASSIA.—Spot quotations for chips are about 45s.

SANDARAC.—Morocco is 12s. 9d. per lb. on the spot.

SARSAPARILLA.—Jamaican native red is quoted at 2s. 7½d. per lb., c.i.f. Spot is from 2s. 9d. to 2s. 10d.

SASSAFRAS BARK.—Select round offered at 6s. 3d. and natural at 4s. 3d. per lb., landed terms.

SEEDS.—(Per cwt.) **ANISE.**—Cyprian, 162s. 6d., spot London. **CARAWAY.**—Dutch firm with sellers quoting 155s., duty paid. **CELERY.**—Indian quoted at 160s. with no interest shown by spot buyers.

CORIANDER.—Market steady. Spot: Morocco nominal at 75s., duty paid and Danubian, 65s., duty paid (60s., in bond). Shipment, Morocco has eased from 75s. to 68s., c.i.f.

CUMIN.—Market unchanged on spot with sellers quoting Cyprian at 125s., and Morocco at 130s., duty paid. Shipment, Cyprian, 112s. 6d., c.i.f.; Morocco slightly easier at 100s., c.i.f.

DILL.—Indian scarce on spot with sellers quoting 82s. 6d. **FENNEL.**—Indian quoted at 85s., spot. **FENUGREEK.**—Firm. Morocco on spot, 50s., duty paid. For shipment 39s. 6d. to 41s. 6d., c.i.f. **MUSTARD.**—English 72s. 6d. to 87s. 6d. according to quality.

SENEGA.—Firm. Nominal values spot 23s. 6d. per lb.; shipment, 22s.

SENNA.—*Tinnevelly LEAVES*, (per lb.) prime No. 1, 1s. 1d.; No. 2 (dry crop), 94d.; prime No. 3, 8d.; f.a.q., No. 3, 7d.; PODS, f.a.q., 7½d.; hand-picked, from 1s. 7d. to 2s. 7½d. as to quality, all on the spot. *Alexandrian* manufacturing pods, 1s. 10d., spot and 1s. 7d., c.i.f. Hand-picked, spot 6s. 6d.

SERPENTARIA.—Root is offered at 37s. per lb. on the spot.

SELLAC.—Spot quotations are:—F.O.T.N. pure, 350s.; F.O. standard No. 1, 360s., nominal; fine orange, 380s. *o 410s. per cwt., ex-London warehouse.

SLIPPERY ELM BARK.—Grinding quality is 3s. per lb., landed.

SQUILL.—Italian on the spot is 76s. per cwt.; value of new-crop for shipment, 65s., c.i.f.

STRAMONIUM.—Indian LEAVES are 5½d. per lb., spot and European, 97s. 6d. per cwt.

STYRAX.—Spot is 5s. 7d. per lb., duty paid.

TAMARINDS.—Supplies of West Indian are offered at 50s. per cwt., duty paid.

TONKA BEANS.—Frosted Para on the spot are offered at 6s. per lb.

TRAGACANTH.—No. 1 ribbon on the spot is £107 10s. per cwt.; No. 2, £87 10s.; No. 3, £67 10s.

TURMERIC.—Madras finger on the spot, is firm 165s. per cwt. Shipment is quoted at 160s., c.i.f.

VALERIAN.—Indian is 145s. per cwt. on the spot and from 130s. to 145s., c.i.f. Belgian, 185s., spot.

VANILLIN.—Rates (per lb.) are:—5-cwt. lots, 30s.; 1-cwt., 30s. 3d.; 56-lb., 30s. 6d.; smaller quantities, 30s. 9d.

UVA URSI.—Spot offers are about 85s. per cwt.

WAXES.—**BEES'**—Dar-es-Salaam, spot 510s. per cwt., with September-October shipment, 480s., c.i.f.; Sudanese, 480s., duty paid and 430s., c.i.f.; Abyssinian, spot, 485s., duty paid, and shipment, 430s., c.i.f. **BENGUILLA.**—440s., c.i.f. prompt shipment. **CANDELILLA.**—Spot is 560s. per cwt. forward, 560s., c.i.f. **CARNAUBA.**—Prime yellow on the spot is 910s. per cwt., shipment, 845s., c.i.f.; fatty grey is 625s. on the spot; shipment, 600s., c.i.f. **MONTAN.**—Rebeck, crude, 115s. per cwt., spot. **SPERMACETI.**—Case lots are about 1s. 9d. per lb.

WITCH HAZEL.—Leaves on the spot are about 1s. 9d. per lb.

Essential and Expressed Oils

ALMOND.—B.P. is from 6s. 6d. to 7s. 6d. per lb., as to quantity.

AMBER.—Rectified on the spot is quoted at from 1s. 6d. per lb.

ANGELICA SEED.—Price per lb. is now quoted at 260s.

ANISE.—Spot supplies are nominal at 15s. 9d. per lb., with afloat and shipment quoted at 15s. 6d., c.i.f.

BERGAMOT.—Spot value is about 80s. per lb.

BIRCH TAR.—Rectified is about 14s. per lb. in 1-cwt. lots.

BOIS DE ROSE.—Brazilian on the spot is 31s. and 29s. 6d., c.i.f.

CADE.—Spanish is about 2s. 3d. per lb. on the spot for 1-cwt. lots.

CAJUPUT.—Spot supplies are 15s. 6d. per lb. for 1-cwt. lots.

CALAMUS.—Imported oils are offering from 70s. per lb.

CAMPHOR, WHITE.—Chinese is 4s. 3d. per lb., on the spot.

CANANGA.—Supplies to come forward are quoted at from 60s. per lb., c.i.f. Spot is from 62s. 6d. per lb.

CASTOR.—In minimum 2-ton lots the price of pharmaceutical quality for prompt delivery is £129 per ton, naked, ex mill. For November delivery the price is £121.

CINNAMON.—B.P. oil on the spot is quoted at from 77s. 6d. per lb. English-distilled from bark is quoted at 27s. 6d. to 30s. per oz. Ceylon leaf, 11s. 9d. per lb., spot.

CITRONELLA.—Firm. Prices (per lb.) include Ceylon afloat at 10s. 6d., c.i.f., and Formosa, 12s., c.i.f., with shipment at 11s. 9d. Java, 12s. 6d., c.i.f., October shipment.

CLOVE.—Madagascar leaf is 13s. per lb., duty paid and 12s., c.i.f., for shipment. Redistilled stem oil from 19s., and English distilled bud oil from 45s.

HYDNOCARPUS.—Spot is scarce at 2s. 2d. per lb.

JUNIPER BERRY.—Imported oils are offered at 17s. 6d. per lb., duty paid. English-distilled is offered at 75s. to 80s. per lb.

LEMON.—B.P. (4 per cent. citral) on the spot is 38s. to 39s. per lb. Californian, 35s. 3d. to 52s. 3d., c.i.f., as to quality, subject to licence.

OLIVE.—Spanish virgin and pharmaceutical oils (B.P.) are offered on the basis of £214 5s. per 1,000 kilos, f.o.b., Spanish ports for prompt shipment. Equivalent landed terms ex-wharf London/Liverpool approximately 21s. per gall. for minimum 1-ton lots (5 x 48-gall. drums). French virgin (maximum acidity, 1 per cent.) at £225 and B.P., £220 per 1,000 kilos, c. and f. (equivalent to 19s. 9d. and 19s. 6d. per gall. spot).

PALMAROSA.—East Indian is 60s. per lb., on the spot, and 57s. 6d., c.i.f., for shipment.

PATCHOULI.—Penang is 60s. per lb., duty paid.

PEPPERMINT.—*Arvensis*: Chinese is 27s. per lb., spot, and c.i.f. Brazilian (45 per cent.), 24s., spot nominal and 21s. 6d., c.i.f. for shipment. Italian "Mit-cham" type oil is from 48s. 6d. per lb. on the spot.

PETITGRAIN.—Paraguay on the spot is 30s. per lb.

THYME.—B.P.C. is about 9s. 6d. per lb.

UNITED STATES REPORT

NEW YORK, SEPTEMBER 21: Sales of American INDUSTRIAL CHEMICALS are now reported to be moving in fair volume, although low demand from individual industries has resulted in a slackening in certain items. A fair sized quantity of OPIUM has just arrived from Turkey. Lower per lb. among CRUDE DRUGS were CASCARA SAGRADA at 29 cents (down four cents); JUNIPER BERRIES, 12 cents (two cents); and IPECACUANHA, \$8.00 (15 cents).

With CITRONELLA and LEMONGRASS OILS selling at their highest levels in years, some dealers consider the situation unsettled and the rates at primary centres "ridiculously high." Higher per lb. are CITRAL, at \$4.90 (up 40 cents); CITRONELLOL, \$3.30 (30 cents); EUCALYPTOL, \$1.50 (20 cents); and GERANYL ACETATE, soapers' grade, \$2.70 (30 cents). METHYL, ALPHA and BETA IONONES were all advanced 65 cents to \$5.30 per lb. Higher per lb. among ESSENTIAL OILS were BOIS DE ROSE, at \$4.35 (up 10 cents); natural PEPPERMINT, \$6.00, and redistilled, \$6.40 (both 15 cents); and PETITGRAIN, \$4.15 (15 cents). Lower per lb. was CHENOPODIUM at \$6.40 (down 25 cents).

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," September 8

For non-medicated toilet preparations (3)

PRINCESS, 731,093, by Boots Pure Drug Co., Ltd., Nottingham. NULON, 728,770, by Reckitt & Colman, Ltd., Hull. TEASIE WEASIE, 731,716, by Raymond (Art De Beaute), Ltd., London, W.1.

For apparatus for disinfecting and deodorising sanitary installations (11)

SANOMATIC, 731,736, by Metropolitan Industrial & Commercial Co., Ltd., London, W.C.1.

For soaps (3)

IVORY SNOW, 731,179, SYLVAN SNOW, 731,180, FAIRY SNOW, 731,178, by Thomas Hedley & Co., Newcastle-on-Tyne.

For all goods (5)

MALOMIN, 730,414, by Imperial Chemical Pharmaceuticals, Ltd., London, S.W.1.

For pharmaceutical preparations for human use (5)

RENADIN, 731,094, by Boots Pure Drug Co., Ltd., Nottingham.

For spectacles and parts thereof included in class 9.

DECOL, 730,356, by Raphael's, Ltd., London, N.W.5.

From the "Trade Marks Journal," September 15

For non-medicated toilet preparations (3)

CUPID, 727,435, by The Dubarry Perfumery Co., Ltd., Hove, Sussex. PINK SATIN, 727,790, by Boots Pure Drug Co., Ltd., Nottingham. HIGH LIFE TALCUM POWDER, 731,760, by Florogen, Ltd., Mitcham, Surrey. GOLD DUST, 730,399, by Lever Brothers, Port Sunlight, Ltd., Cheshire.

For all goods (3)

ETHICON, 728,357, by Ethicon Suture Laboratories, Ltd., Edinburgh. AZIZA, 731,731, by the Aziza Corporation of America, New York, U.S.A.

For all goods (5)

OBRON, 724,488, by Chas. Pfizer & Co., Inc., New York, U.S.A. ETHICON, 728,358, by Ethicon Suture Laboratories, Ltd., Edinburgh, Scotland. BIDORMAL, 730,675, by Allen & Hanbury, Ltd., London, E.2.

For preparations of testosterone propionate for pharmaceutical purposes (5)

TESTAPRA, 731,989, by H. E. Daniel, Ltd., London, S.E.19.

For mixtures and pastilles, all containing honey, and all for use in the treatment of coughs, colds,

sore throats, and the like complaints (5)
MELLINE, 724,613, by Bruce's, Ltd., London, W.5.

For anaesthetics (5)

DUNCAINE, 730,133, by Duncan, Flockhart & Co., Ltd., Edinburgh.

For pest-destroying preparations for use in agriculture, and horticulture, weed killers, fungicides, disinfectants and antiseptics (5)

PYROMORS, 727,021, by Deutsche Solvay-Werke, G.m.b.H., Solingen-Ohlis, Germany.

For pharmaceutical and veterinary preparations all containing antibiotics (5)

BACIMYTIN, 730,903, by John Smythe (London), Ltd., trading also as Rona Laboratories, London, W.C.2.

For pharmaceutical preparations (5)

BIOMYDRIN, 731,098, by Nepera Chemical Co., Inc., New York, U.S.A.

For pharmaceutical and veterinary preparations and substances (5)

AVITONE, 731,613, by Hough, Hoseason & Co., Ltd., Manchester.

For scientific, photographic and optical apparatus and instruments (9)

BONATA, 730,657, by Julius Joseph Silber, London, W.C.1.

For dental apparatus and instruments, but not including needles, cannulas or hypodermic syringes or any goods of the same description as any of those excluded goods (10)

Device of a knight on horse-back, 718,229, by Ritter, A.G., Baden, Germany.

For massage appliances made of plastics (10)

HAIR'JILL, B719,934, by the Auto-raf Brush and Plastics Co., New York, U.S.A.

For surgical and medical instruments and apparatus (10)

METRON, 731,903, by Surgical and Medical Electronics, London, S.W.9.

PRINT AND PUBLICITY

Advertising Campaigns

CROOKES LABORATORIES, LTD., Park Royal, London, N.W.10: Halibut oil. Comprehensive advertising campaign continuing throughout the winter.

Medical Propaganda

BRITISH SCHERING, LTD., 229 Kensington High Street, London, W.8: "Neutradonna" (letter to doctors, diet sheet and sampling card).

Periodicals

CHILEAN IODINE EDUCATIONAL BUREAU, Stone House, Bishopsgate, London, E.C.2: Current Iodine Literature No. 13, 1954. Pp. 18.

C. & D. WEEKLY LIST OF PRICES

A=Advanced; R=Reduced; L.R.P.=Inclusive Retail Price; *=Tax 25 per cent.; †=Tax 75 per cent.

ALLEN & HANBURY'S, LTD. (from September 15)

Hyperdurec series:—

adrenaline ampoules Doz. I.R.P.
6 x 0.5 c.c. 28 0 3 6 A

100 x 0.5 c.c. 26 0 39 0 A

6 x 1 c.c. 28 0 3 6 A

100 x 1 c.c. 26 0 39 0 A

vial of 5 c.c. 21 0 2 7½ A

atropine ampoules gr. 1/75 in 1 c.c. 6 33 0 4 1½ A

100 31 0 46 6 A

gr. 1/100 in 1 c.c. 6 33 0 4 1½ A

100 31 0 46 6 A

hyoscine ampoules 6 x 1 c.c. 33 0 4 1½ A

100 x 1 c.c. 31 0 46 6 A

morphine ampoules gr. ¼ in 1 c.c. 6 40 0 5 0 A

100 38 0 57 0 A

gr. ½ in 1 c.c. 6 47 0 5 10½ A

100 45 0 67 6 A

10-c.c. vial ampoules of morphine gr. ¼ with atropine gr. 1/150 in 1 c.c. 6 40 0 5 0 A

100 morphine gr. ¼ with atropine gr. 1/75 in 1 c.c. 6 40 0 5 0 A

100 M.H.A. (morphine, hyoscine and atropine) ampoules 6 x 1 c.c. 40 0 5 0 A

100 x 1 c.c. 38 0 57 0 A

10-c.c. vial 51 0 6 4½ A

CIBA LABORATORIES, LTD. (previously notified on September 4)

Serpasil tablets 0.1 mgm. 25 2 9 R

100 9 0 R

500 42 6 R

0.25 mgm. 25 6 0 R

100 22 0 R

500 106 6 R

CROOKES LABORATORIES, LTD. (from September 21)

Anabalm* 1-oz. tube 3 6 R

IMPERIAL CHEMICAL (PHARMACEUTICALS), LTD. (from September 10)

COMING EVENTS

Monday, September 27

ROMFORD BRANCH, PHARMACEUTICAL SOCIETY, Unicorn Hotel, Gidea Park, at 7.45 p.m. Mr. D. P. Ayres (Ilford, Ltd.) on "The Ilford Colour Process."

WEST MIDDLSEX BRANCH, NATIONAL PHARMACEUTICAL UNION, Feathers Hotel, Ealing Broadway, at 7.45 p.m. Discussion on the tripartite meeting of C.F. retailers, wholesalers and manufacturers being held in January.

Tuesday, September 28

DARTFORD BRANCH, PHARMACEUTICAL SOCIETY, Wellcome Club, High Street, Dartford, at 8 p.m. Mr. C. W. Maplethorpe on "The Education and Training of the Pharmacist."

MANCHESTER BRANCH, GUILD OF PUBLIC PHARMACISTS, Royal Eye Hospital, Oxford Road, Manchester, at 6.30 p.m. Discussion on Linstead report and regional purchasing.

Wednesday, September 29

EAST METROPOLITAN BRANCH, PHARMACEUTICAL SOCIETY, Swan Hotel, Stratford Broadway, Stratford, London, E.15, at 8 p.m. Mr. A. J. Dermott (Innoxa, Ltd.) on "Skin Health and Cosmetics."

DUNDEE AND EDINBURGH BRANCHES, PHARMACEUTICAL SOCIETY, Carlton Restaurant, Whytecauseway, Kirkcaldy, at 6.15 p.m. Dr. K. R. Capper on "The Preparation of the British Pharmaceutical Codex and the National Formulary."

HOUNSLOW BRANCH, PHARMACEUTICAL SOCIETY, Parke, Davis & Co., Ltd., at 2 p.m. Visit. MANCHESTER PHARMACEUTICAL GOLFING SOCIETY, Northenden golf club. Fixture.

Thursday, September 30

HULL CHEMISTS' ASSOCIATION AND BRANCH, New York Hotel, Hull, at 7.15 p.m. President's reception.

Friday, October 1

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION, Lambeth Town Hall, Brixton Hill, London, S.W.2, at 7.45 p.m. Film on Switzerland by Mr. H. Cormace.

Advance Information

NATIONAL PHARMACEUTICAL UNION—Lancashire, Cheshire, Westmorland, and Cumberland areas, Prince of Wales Hotel, Southport, on October 10. At 11 a.m., church service; at 12.45 p.m., luncheon; at 2.30 p.m., area meeting; at 5 p.m., tea.

NEW PRODUCTS AND PACKS

BURROUGHS WELLCOME & CO.

Lithidrone (neonatal) injection of nalorphine 5 c.c. 4 6

LIFE AND BEAUTY, LTD.

GAYELORD HAUSER

Dried skim milk powder 16 oz. 40 6 4 10

Brewers yeast powder 16 oz. 54 6 6 6

Brewers yeast tablets 250 46 0 5 6

Wheat germ 12 oz. 38 0 4 6

Molasses 32 oz. 38 0 4 6

Vegisalt 15 oz. 17 0 2 0

LLOYD-HAMOL, LTD.

Thoracin* 1 oz. 30 0 4 0

2 NEW PRODUCTS

FOR THE TREATMENT OF

PEPTIC ULCER

'Monodral'** counteracts hypermotility and provides gastric rest, thus relieving severe ulcer pain and facilitating healing. Extremely well tolerated, this new drug, which also reduces acid secretion, may be successfully combined with routine antacid therapy. Available in small caplets containing 5 mg. active principle.



*2-diethylaminomethyl-1-2-cyclopentyl-2-(2-thienyl) hydroxyacetate methobromide

MONODRAL

Trade Mark

Literature and a sample will gladly be sent on request

Manufactured by :

BAYER PRODUCTS LTD. AFRICA HOUSE · KINGSWAY · LONDON · W.C.2

Associated export company Winthrop Products Ltd. London.

INFECTIONS OF THE EYE



'Sulfomyl'** fulfils the need for a non-irritant sulphonamide for use in common eye infections. The new preparation is active in the presence of blood, pus and mucus and being virtually non-toxic is especially valuable in cases sensitive to other drugs. Available as Eye Drops in a simply operated dropper bottle or as ointment

**(p-sulphonamidobenzylamine propionate)*

SULFOMYL
EYE DROPS

Trade Mark

INECTO

the first name in hair colouring

Women everywhere know they can rely on Inecto Rapid, the world's most famous hair colouring, to restore youthful radiance to white or grey hair. And the new Four-in-One series, backed by regular advertising on a nation-wide scale, is becoming more and more popular as the easy, pleasant way to bring back glowing highlights to hair that is faded or showing those first grey streaks.

PRICES OF THE TWO CONVENIENT SIZES
(RAPID AND FOUR-IN-ONE) ARE AS FOLLOWS:-

*Small size (one pair A and B bottles)
2/6 wholesale (plus P.T.), retailing at 5/6.*

*Large size (four pairs A and B bottles)
7/- wholesale (plus P.T.), retailing at 15/9.*

Available through all wholesalers.

INECTO ENQUIRY BUREAU

27 DOVER STREET, LONDON, W.1
Hyde Park 7541 (12 lines)

AMERICAN OIL *of PEPPERMINT*

THE
H. G. HOTCHKISS
ESSENTIAL OIL CO.

Established 1839

LYONS, WAYNE COUNTY, N.Y.,
U.S.A.

*Standard for Quality
for 115 Years*

VARICOSE VEINS



COLBY

*Surgical Elastic
Stockings*

IN
NYLON
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COTTON

INDIVIDUALLY DESIGNED
AND FASHIONED

Write for prices, material, samples, measurement chart and order forms:

COLBY PRODUCTS LIMITED
314 EUSTON ROAD, LONDON, N.W.1

For health's sake! . . .

STOCK

BARBER

The fastest selling Health Lamps



The HEALTH - MASTER — "healthy profit" RANGE

HEALTH-MASTER

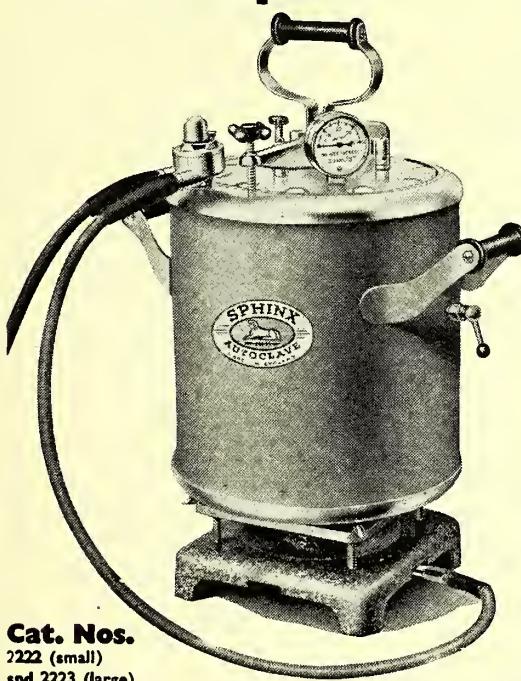
MODEL 365 Combined Ultra-violet and Infra-red/Luminous Heat Lamp	£13 13 0
MODEL POPULAR Infra-red/Luminous Heat Lamp	£4 10 0
MODEL 325 Infra-red/Luminous Heat Lamp (De Luxe Model)	£8 10 0
MODEL 425 (Floor Stand version of Model 325)	£9 15 0

THERE IS AN APPROVED WHOLESALE DISTRIBUTOR IN YOUR AREA

Produced under rigid laboratory control by :

BARBER ELECTRICAL SERVICES LTD., LEACH STREET, BIRMINGHAM, 16. Telephone: EDGbaston 3511 (P.B.X.)

The Sphinx STAINLESS STEEL AUTOCLAVE



at a reasonable price!

GAS OPERATED — THERMOSTATICALLY CONTROLLED

Made in 2 sizes:

11" x 10½" for sterilising ampoules and bottles of injectable fluids.

18" x 10½" for sterilising pipettes, syringes, etc.

MAXIMUM WORKING PRESSURE

20 lbs. per sq. inch.

Accessories Available:

1 Friedman-Athill type gas burner, and Compoflex tubing.

2 Stainless steel wire baskets.

3 Copper sheathed thermometer graduated 210/300°F.

4 Two stainless steel semi-circular half plates for use when sterilising bottles.

*Approved by the Technical Committee
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Cat. Nos.
2222 (small)
and 2223 (large)



JOSEPH SANKEY & SONS LTD · ALBERT ST · BILSTON · STAFFS

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BIOPAR TABLETS

VITAMIN B₁₂ AND INTRINSIC
FACTOR

EFFECTIVE ORAL REPLACEMENT
FOR INJECTABLE VITAMIN B₁₂

Bottles of 30, 60 and 500

Write for Literature to:-

THE ARMOUR LABORATORIES
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HAMPDEN PARK, EASTBOURNE, SUSSEX

Telephone: Hampden Park 740

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**EXTENSIVE
ADVERTISING
CREATES DEMAND**

for

HERBALENE

A safe herbal laxative. Packed—

	Retail P.T. inc.	Trade per doz.
1 oz. 3 drms.	1/6	10/-
2½ ozs. ..	2/4	16/-
5 ozs. ..	3/6	24/-



GARLIC PERLES

	Retail P.T. inc.	Trade per doz.
30 Perles	3/4	23/-
96 Perles	9/6	66/-
192 Perles	17/8	122/-

Purchase Tax 25%
Orders of 40/- or Over Carriage
paid direct or via wholesaler.

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NATURAL PRODUCTS CO.
278/80 LONDON ROAD,
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THE WORLD'S GREATEST BOOKSHOP

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ANISEED OIL B.P.
EUCALYPTUS OIL 70/75% B.P.
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Telephone: CHIswick 6628/9 Telegrams: Salmenta, Chisk, London

One Shilling & Sevenpence PROFIT on each sale!



NERVONE

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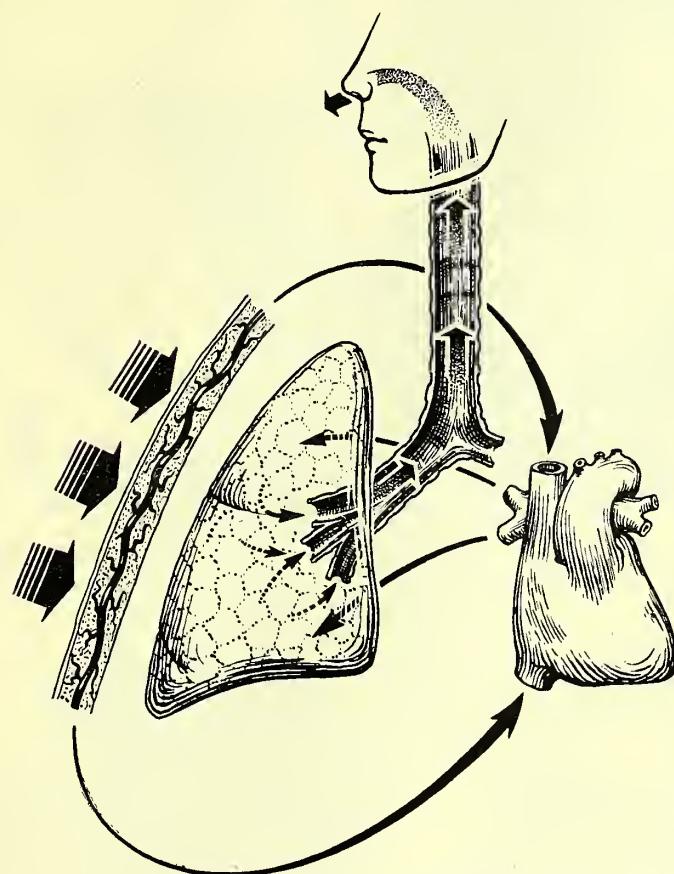
The New Biochemic Tablet

'NERVONE', CECIL HOUSE, HOLBORN VIADUCT, LONDON

Retail Prices
5s. 8d.
22s. 7d.
Incl. P.T.

THORACIN

A new adjuvant in the treatment
of respiratory disorders, now being
announced to the medical profession



This diagram shows how Thoracin components penetrate the skin, are carried by the bloodstream to the alveoli and excreted there to exert their effect

**BASED ON THE PRINCIPLES
THAT HAVE MADE TRANSVASIN
SO SUCCESSFUL IN THE
TREATMENT OF
RHEUMATIC CONDITIONS**

The Thoracin formula is based on the same principles that have made Transvasin so successful. It achieves the effect of the classical counter-irritant remedies, without irritation to the skin.

Thoracin contains a new ester of Guaiacol that is entirely free from the evil smell and irritant effect associated with this phenol derivative in its pure form. This ester easily penetrates the skin, and is excreted in the alveoli, where it exerts its well-known effect. Thoracin also relieves reflex spasm of the pectoral muscles by the use of the tetrahydrofurfuryl-ester of salicylic acid, and brings to the alveoli via the bloodstream the sedative, antispasmodic, expectorant and mildly antiseptic properties of camphor and eucalyptus.

Thoracin can be safely used on the most delicate skin, and is thus suitable for children. Thoracin is now being advertised in the medical press, and every doctor in the country is being sent particulars. Doctors will be very interested in this new form of relief for the respiratory disorders so frequent during the British winter —so it would be only sensible to order a supply from your wholesaler ready to meet prescriptions.

FORMULA

Phenyl Ethyl Nicotinate	2.0%w/w
Guaiacol Furoate	5.0%w/w
Tetrahydrofurfuryl Salicylate	10.0%w/w
Camphor	3.0%w/w
Eucalyptol	2.0%w/w
Water-Miscible Base to	100.0%

Thoracin is available in 1oz. tubes at 4/-, which are prescribable on form E.C.10, and is not advertised to the public. Trade terms: 30/- per dozen tubes, plus P.T. 7/6 per dozen.

LLOYD-HAMOL LTD.,

11 WATERLOO PLACE, S.W.1
AND AT ZURICH

THORACIN

BISKS BRING BUSINESS

REGD.

Yes, the public have realised that BISKS certainly do make it easy to lose unwanted fat. There is now no need for the discomfort of drastic dieting, exercises or drugs. Just eat BISKS and 'Square' meals. Your customers will thank you for making it so easy for them to slim.

If you have not yet got a stock of these biscuits, don't miss your chance of real business, stock up NOW. BISKS are being advertised in selected evening newspapers, and display material is available on request. BISKS retail at 4/6 and 8/6.



-SO STOCK UP **NOW!**

ANDOMIA PRODUCTS LTD

GRANT STREET

BRADFORD, 3

*John Bell's
announce*

COMPOUND PHOLCODINE TABLETS

A NEW Line with year-round sales

Pholcodine combined with Analgesics, Antipyretics and sedatives.

Pholcodine instead of Codeine, since it is a better sedative and is non-constipating. Relieves pain and feverish conditions associated with colds and influenza. Soothes, and promotes sleep.

FORMULA—Each tablet contains:—Aspirin 4 grs., Phenacetin 4 grs., Morpholinylethylmorphine (Pholcodine) 1/12 gr.

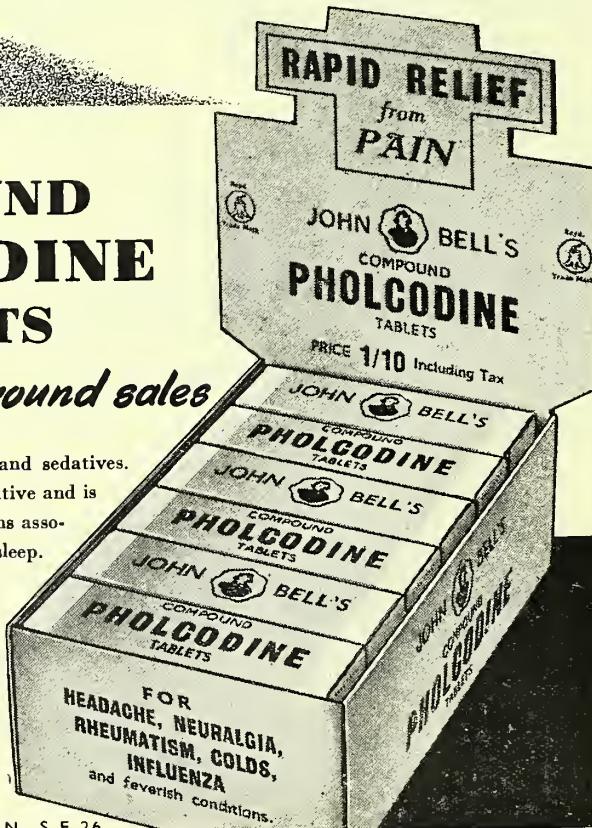
Attractively presented, satisfying profit.

RETAIL PRICE
(10 tablets per tube)
1/10d. per tube

WHOLESALE PRICE
11 6 per doz. Plus 2/10d. P. Tax.
13 to the doz. on 3 doz. orders

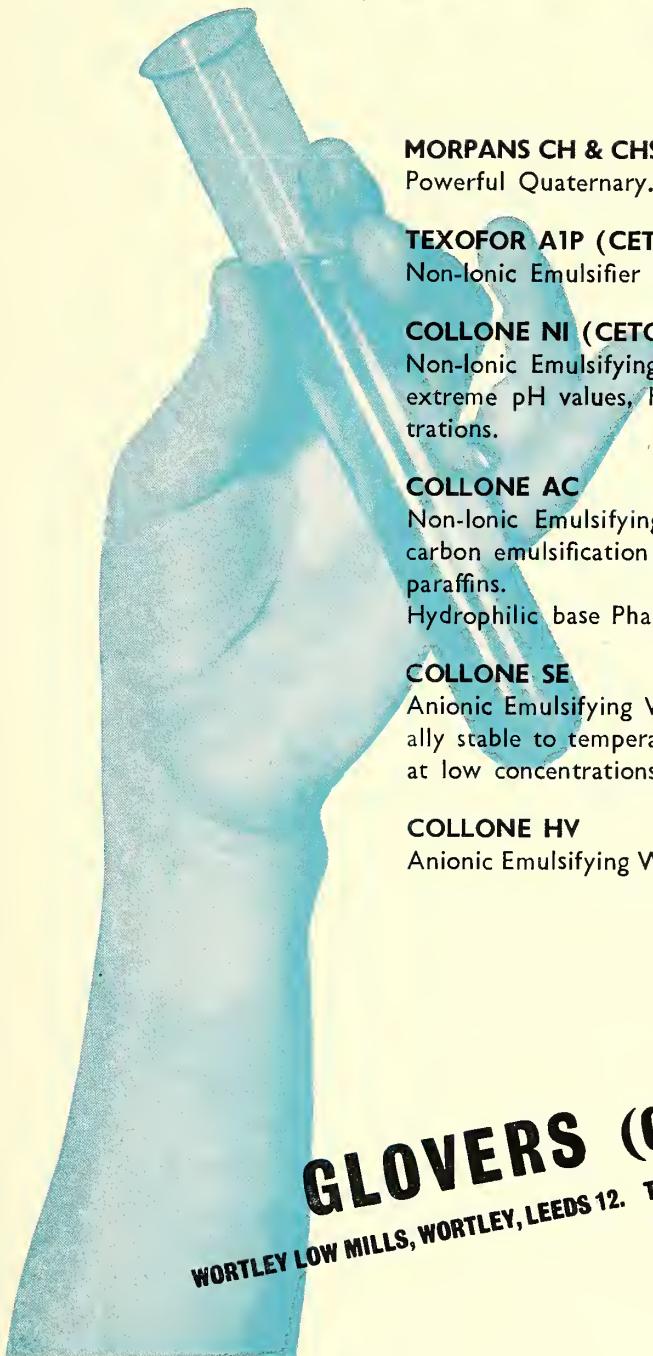
JOHN BELL, HILLS & LUCAS Ltd.

OXFORD WORKS, WORSLEY BRIDGE ROAD LONDON, S.E.26.





a Comprehensive Range



MORPANS CH & CHS (CETRIMIDE BP)

Powerful Quaternary. Bactericides for Antiseptic Cleansing.

TEXOFOR A1P (CETOMACROGOL 1000 B. VET. C.)

Non-Ionic Emulsifier and Dispersant.

COLLONE NI (CETOMACROGOL WAX B. VET. C.)

Non-Ionic Emulsifying Wax for inert emulsions, resistant to extreme pH values, hydrolytic agents and high salt concentrations.

COLLONE AC

Non-Ionic Emulsifying Wax especially valuable for hydrocarbon emulsification ranging from light oils to high melting paraffins.

Hydrophilic base Pharmaceutical and Cosmetic preparations.

COLLONE SE

Anionic Emulsifying Wax for producing emulsions exceptionally stable to temperature changes and giving high viscosities at low concentrations.

COLLONE HV

Anionic Emulsifying Wax Base for the Cosmetic Industry.

GLOVERS (CHEMICALS) LTD.

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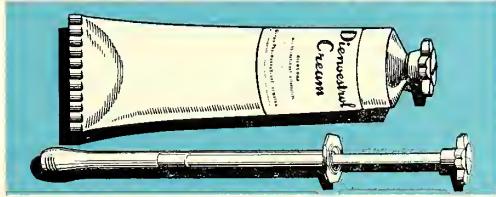
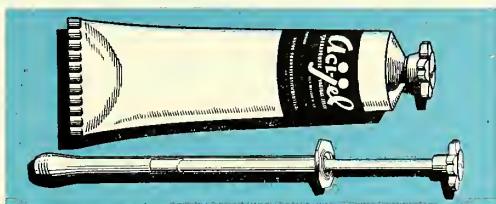
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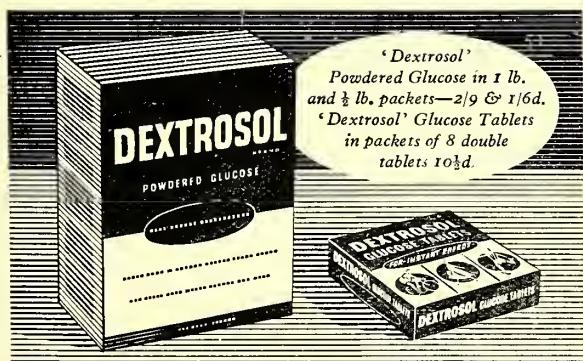


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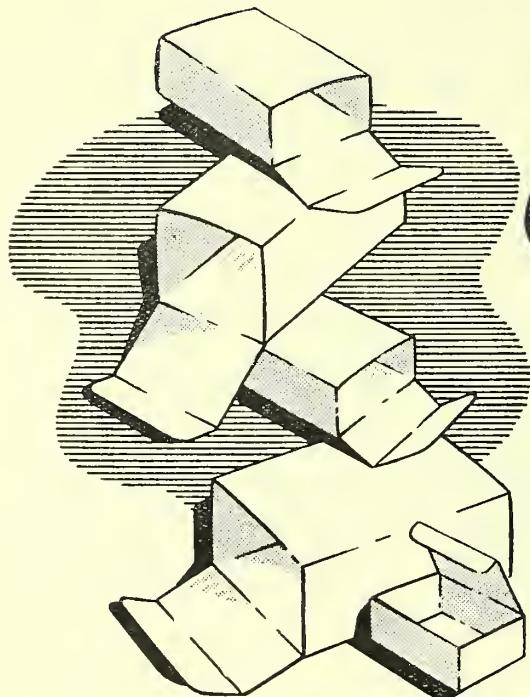
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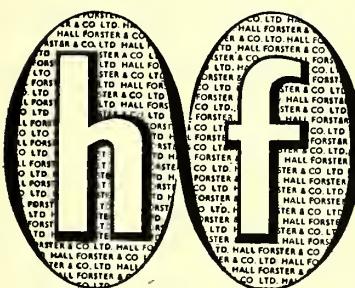
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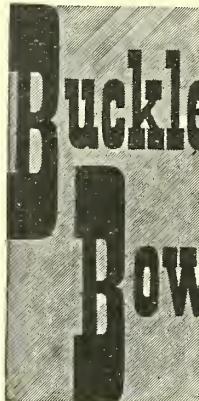
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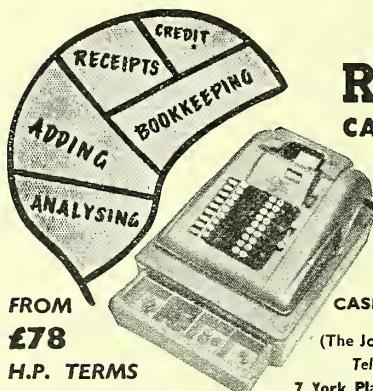
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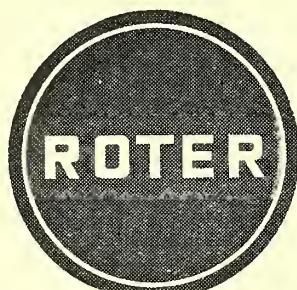
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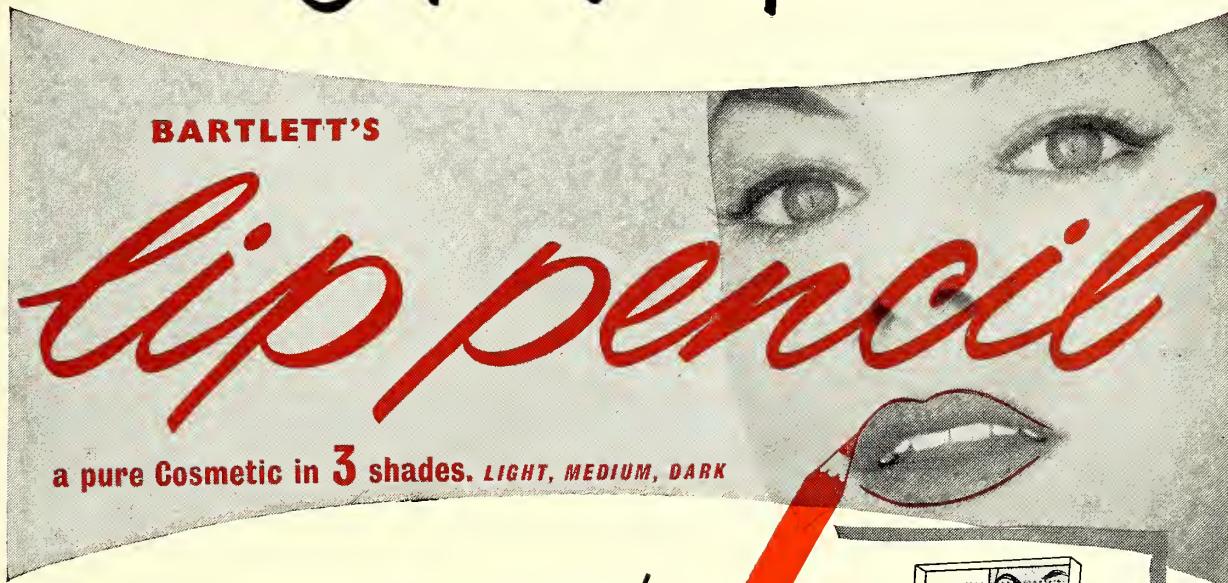
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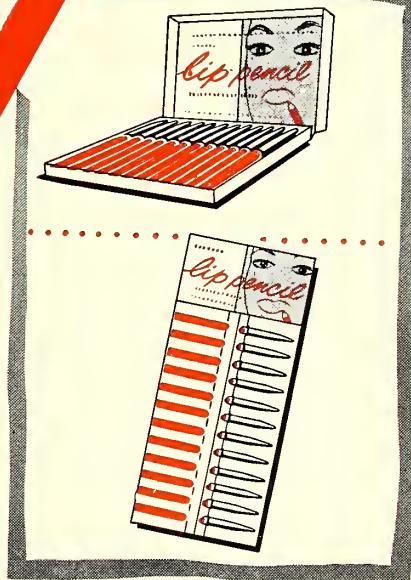
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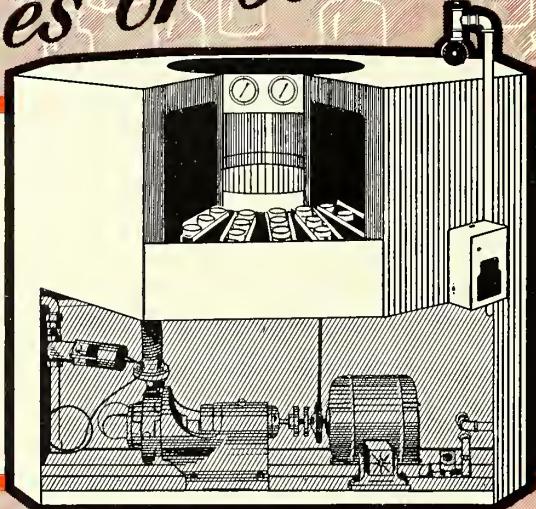
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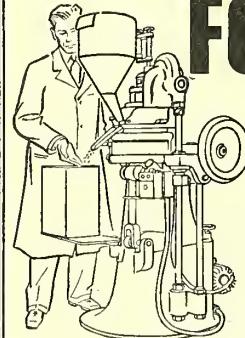
These attractive advertisements are appearing in national women's magazines and special parent-appeal journals creating high-margin sales for you - NOW

S. Maw Son and Sons Limited Barnet



THE PEOPLE FOR-

PRIVATE FORMULA



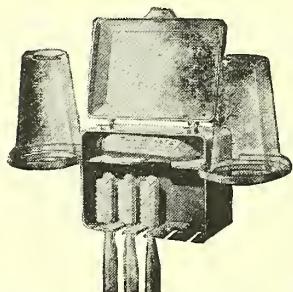
*Preparation
and production
of tablets, pills
capsules, lozenges
suppositories
ointments*

MATTHEWS & WILSON LTD.
6-8 COLE STREET, LONDON, S.E.1.

Telephone: HOP 2147-8

Specialists for over 60 years
B.P., B.P.C., N.F., and all Standard preparations
supplied from stock.

A NEW 'HYGENE' BEST-SELLER!



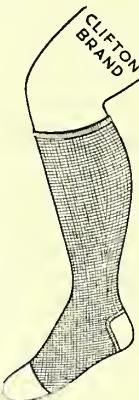
THE FIRST AND ONLY
PERFECT CABINET FOR
STORING TOOTH-PASTE
AND BRUSHES, INCOR-
PORATING SPACE FOR A
TUMBLER AT EACH END.
IN GREEN OR IVORY
PLASTIC, IT RETAILS AT A
VERY LOW PRICE AND IS
BACKED BY ADVERTISING.
YOU SHOULD STOCK
THIS NOW!

For full details of this and
other attractive 'HYGENE'
products, write to manu-
facturers:—

PROGRESSIVE NOVELTY INDUSTRIES (M/c) LTD.
PROGRESS HOUSE, 111 GEORGE LEIGH STREET, MANCHESTER, 4

CW/2759

**Charles Williams
& Co., (Surgical & Sports) Ltd.**



Makers of

**Clifton Brand
Elastic Hosiery**

ONE WAY STRETCH
TWO WAY STRETCH

**Lastex and Elastic
Net**

N.H.S. Tariff Prices
also

*Surgical Belts, Trusses
Suspensory Bandages, Appliances
and Chemists' Sundries*

CLIFTON WORKS
Stoney Street, Beeston, Notts.

Phone: 54492

"Sweetheart" "Drinkrite"

DRINKING STRAWS
special SMALL PACKS of 25, 50 and 100 straws.
Order now and INSIST on these brands for QUALITY.
HYGIENIC DRINKING STRAWS CO. LTD.,
College Road, Fishponds, Bristol

Wimzo ALWAYS MEANS
CLEAN HANDS
ASK YOUR WHOLESALER, OR WRITE:
WIMSOL LTD., KEIGHLEY, FOR TERMS

BURNSIDE'S EUCALYPTUS OILS

Distilled in Australia by the largest distillers and refiners of Eucalyptus Oils
in the world.—**W. K. BURNSIDE, PTY., LTD., MELBOURNE, AUSTRALIA**

80/85% Rectified B.P.
Oil Euc. Dives 40/45%
Phellandrene

70/75% Rectified B.P.
Piperitone 90/95%
Oil Euc. Phellandra

UNIFORMITY OF QUALITY

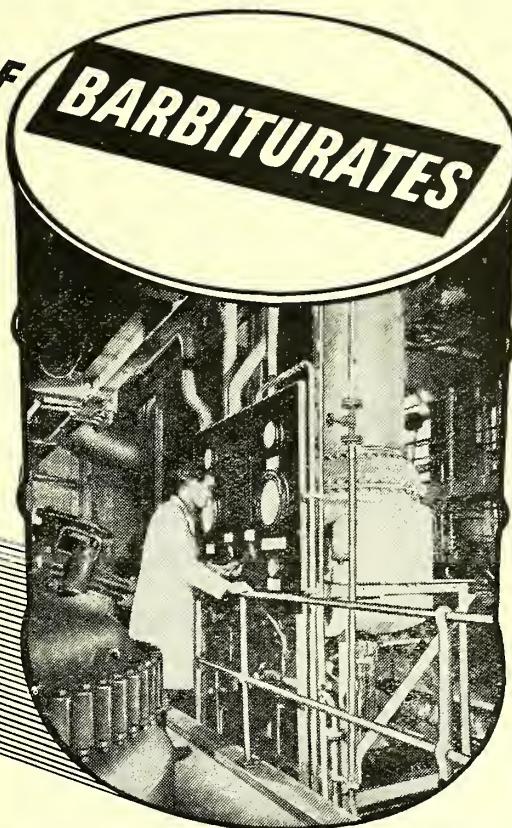
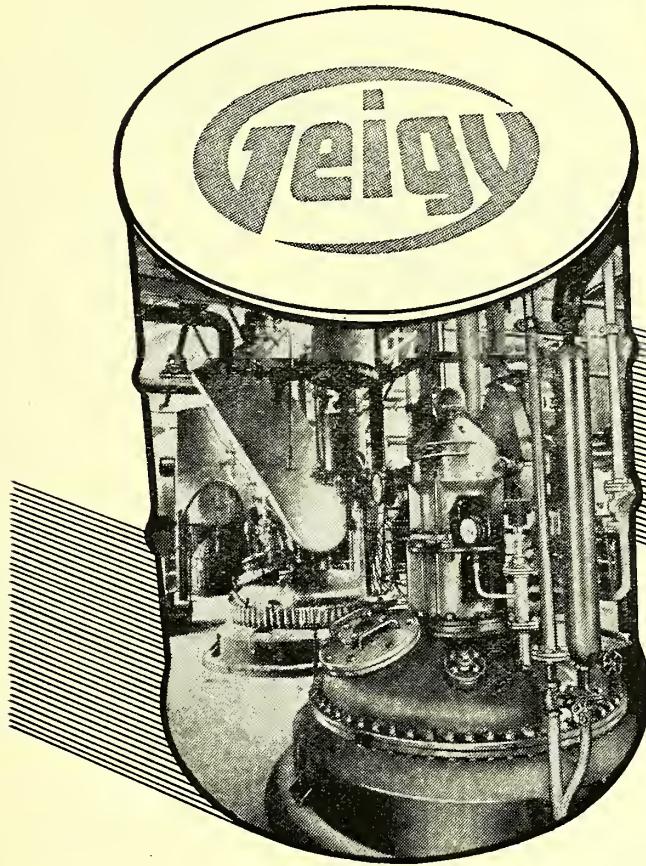
CONSISTENCY OF ODOUR

Agents for U.K.: WILSON & MANSFIELD, LTD., 15 Philpot LANE, LONDON, E.C.3

Phone: MANSION HOUSE 9264-5-6

(WHOLESALE ONLY)

Grams: WYFIELD, LONDON

LARGE SCALE PRODUCTION OF**BARBITURATES**

Phenobarbitone B.P.	Phenobarbitone Sodium B.P.
Barbitone B.P.	Barbitone Sodium B.P.
Butobarbitone B.P.C.	Amylobarbitone B.P.C.
Amylobarbitone Sodium B.P.C.	Cyclobarbitone B.P.C.
Cyclobarbitone Calcium	Hexobarbitone B.P.
Methylphenobarbitone B.P.	Quinalbarbitone Sodium B.P.

Scientifically controlled production in the latest type of plant enables GEIGY Barbiturates to be produced to exacting and invariable standards of quality. Continuous operation with the aid of constantly vigilant research and analytical laboratories provides Barbiturates by the ton in an ever expanding range.



PHARMACEUTICAL LABORATORIES GEIGY LTD.

Rhodes, Middleton, MANCHESTER.

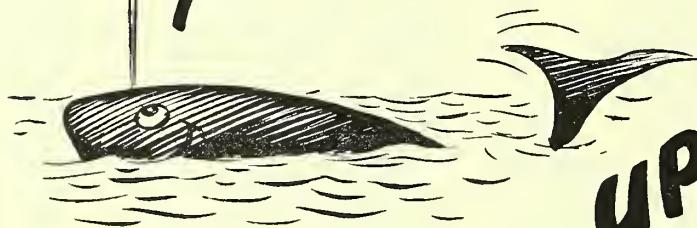
IN THE WINDOW

ON THE COUNTER

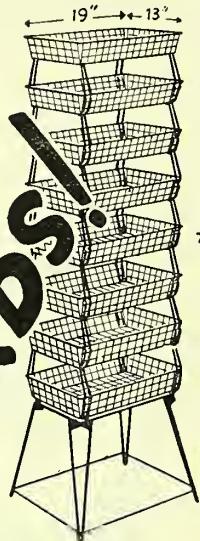


BEANSTALKS

give you selling space-



UPWARDS!



19"

13"

7'5"

2-tier 29/- then add as you need at
17/9 per tier to make ANY height

ON THE FLOOR

DETAILS OF ALL MODELS FROM BEANSTALK SHELVING LTD • CHICHESTER • SUSSEX

Your name and address

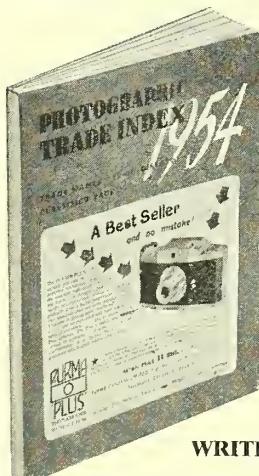
C.D.6

UP THE WALL

PHOTOGRAPHIC TRADE INDEX

1954

Over 10,000 practical entries, giving answers to your trade queries presented in the most convenient form for immediate reference.



- ★ 10,000 TRADE ENTRIES
- ★ COMPLETE ADDRESS SECTION
- ★ TRADE DIRECTORY DIVIDED INTO APPROPRIATE HEADINGS
- ★ ANSWERS ALL YOUR—
“ WHERE? . . . WHAT? . . . AND
WHO? . . . QUESTIONS ”
- ★ WILL NOT DATE. SUPPLEMENTARY ENTRIES WILL BE
PUBLISHED IN PHOTOGRAPHIC
TRADE BULLETIN
- ★ PRICE ONLY 10/6 NET

WRITE FOR YOUR COPY TO-DAY

Just pin a Cheque or P.O. for 10/6 to a sheet of
your business note heading and send it to —

THE PHOTOGRAPHIC TRADE BULLETIN
46/47 CHANCERY LANE • LONDON, W.C.2

YOUR OWN NAME WRAPPER

TOILET ROLLS

IN MANILLA OR SULPHITE TISSUE

Ask for prices and Particulars of Weights Required

WRAPPERS
PRINTED AT
NO EXTRA CHARGE

LIPTON'S PAPER MILLS LTD.
BANYARD ROAD, BERMONDSEY, LONDON, S.E.16

BIG TRADE AND PUBLIC RESPONSE TO



"IT'S A WINNER!"

—that's the Trade's opinion of KEG, Field's new haircream with the Bay Rum base. The first announcement has brought a flood of orders and we apologise if delivery is slow in some areas; production is being stepped up to meet the tremendous demand.

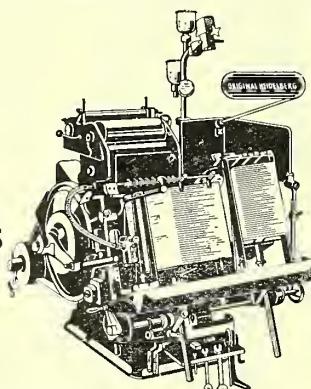
TIE UP WITH THE BIG CAMPAIGN FOR KEG — ORDER NOW AND GIVE PROMINENCE TO THE FINE KEG PACKS AND DISPLAYS.

FULL PAGE COLOUR ADVERTISEMENTS

Field's are determined to make KEG an outstanding profit-making line for the retailer. National advertising has been trebled and will make its full weight felt during July and August with full pages in colour in "Illustrated," "Picture Post," "Everybody's," and "John Bull," besides key spaces in National Dailies and "Radio Times," "Reveille," "Week-End Mail" etc.

** Keg gives you bigger profits*

NO!
THIS WILL
NOT
MAKE PILLS
OR
TABLETS



BUT WE HAVE A BATTERY OF THESE MACHINES TO ENABLE US TO GIVE A SPEEDY SERVICE WITH PRINTED TABLET CARTONS ALL ORDERS DISPATCHED IN 4 TO 7 DAYS.

J. N. WHITELAW
LABEL AND CARTON PRINTERS
PALESTINE GROVE • MERTON • S.W.19
Telephone: MIT. 4411

The Silky Soft Absorbent Tissue that is preferred

Vanity

HANKIE TISSUES
RETAILS FROM 1/6d.

Tissues have come to stay—it's just a case of selling the BEST to make and keep customers. VANITY are produced by THE PAPER SPECIALISTS—packed attractively and come to you in display cartons worthy of your windows and counters.

BOUDOIR CARTONS

(150 in White or assorted Pastel colours) or Cellophane Wrapped 150 and 180; assorted shades if required.

FREEDER BROTHERS PAPER MILLS
BRIMSDOWN, ENFIELD, MIDDLESEX
Telephone: Howard 1847 (3 lines) Telegrams: Sylkocrepe, Enfield, Middlesex

Here come the "Sun-tang" Twins

to boost your Sales
and increase your Profits !

When widespread national advertising for Sun-tang brings additional customers to your shop, be sure you are ready to serve them. Some will want Sun-tang CONCENTRATED — others may prefer Sun-tang SPARKLING — but all will wish to try these new refreshing drinks for themselves. Sun-tang is made from whole fresh oranges, with sugar and glucose. Eye-catching display material will assist sales.

Order "Sun-tang" NOW from your usual wholesaler or, write to:

BARNETT & FOSTER LTD.
QUEENSBRIDGE ROAD, LONDON E.8
TELEPHONE: CLISSOLD 7132

MAKERS OF "NIAGARA" BLACKCURRANT SYRUP

A small firm with a BIG reputation for :—

CRUDE DRUGS

BOTANICALS	GUMS
BALSAMS	SPICES
CULINARY HERBS	WAXES
ESSENTIAL OILS	RAUWOLFIA

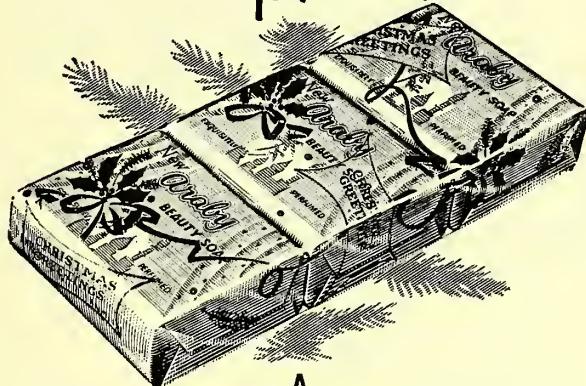
BROME & SCHIMMER

Importers & Millers

7 LEATHER MARKET, LONDON,
S.E.1

BIBBY

Everyone wants Triplets!



A POPULAR ENCORE—

Araby Triplets, last year's seasonal success. Three tablets of this exquisitely perfumed beauty soap in their special 'Christmas Greetings' wrapper.

RETAIL PRICE 1/6d.

Last year, Araby Triplets were an outstanding success—and you can bet that this Christmas, too, they'll be welcomed with open purses wherever they're shown.

National Advertising has told your customers all about the beauty of buying Araby Soap and still bigger things are planned for Araby in the near future. Stock up now and take advantage of the triplets' seasonal appeal.

BATH-TIME FAVOURITES



Araby Bath Tablets are wrapped in blue cellophane with a gold seal. They're sold in gift boxes of three.

RETAIL PRICE 3/3d.

This attractive gift box contains three tablets of **Bibby Bath Assorted**—Violet, Rose and Verbena scented, wrapped in coloured cellophane.

RETAIL PRICE 3/9d.

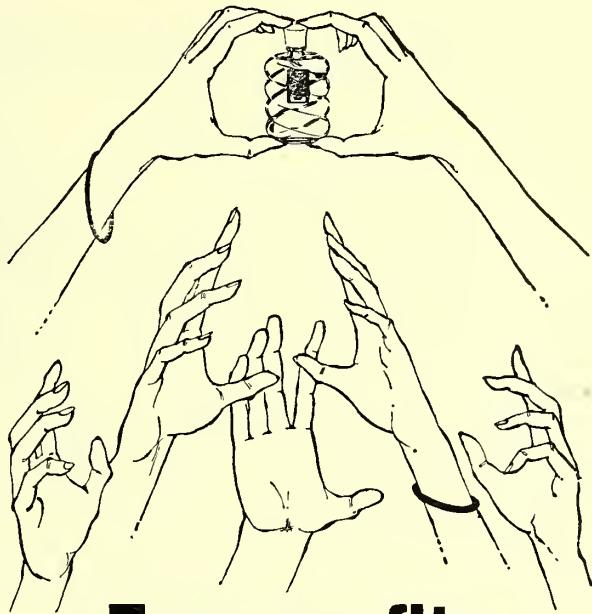
**Stock up now
with**

**BIBBY
SOAP**

**They're
dressed
to sell**

Write for details
to your usual
wholesaler, or to
Sales Department:

J. BIBBY & SONS LIMITED, KING EDWARD STREET, LIVERPOOL 3
Makers of Cidal Soap and Cidal Cream Shampoo



Easy profits within your reach

Created, packed and sealed in Paris by the world-famous parfumeurs L. T. PIVER DE PARIS. The sort of perfumes no woman can resist; perfumes with matching face powders and soap. No wonder sales are soaring as the good news spreads throughout the country. Since we re-introduced PIVER perfumes to the British market sophisticated women everywhere have been acclaiming them with delight.

Extensive advertising in a variety of media is helping further to increase this demand—a demand in which enterprising retailers are already participating to good profit. Well over 4,000,000 women see PIVER advertising every month; in National magazines, on cinema screens and in window displays. Attractive Display Units and Counter Cards are yours for the asking.

Note these retail prices:

Les Fleurs (8 fragrances) 9/11.
Le Trèfle Incarnat, Floramye, Pompeia,
Rêve d'Or, Cuir de Russie, 14/8 and 19/11.
Special pochette size, 5/11.
Matching powders 6/3.

PIVER

If YOU are not already sharing in the Piver success story write at once to Sole Importers:—

F. & G. TURNPENNY LTD.
5, Great Winchester Street, London, E.C.2
Telephone: London Wall 1316 (3 Lines)

NOW AVAILABLE

*A Modern Version of
an Old Favourite...*

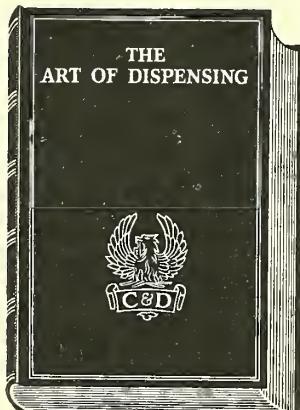


The Art of Dispensing

First published 1888

Completely re-written

1953



"The Art of Dispensing" is the most economical, complete and up-to-date manual dealing with the pharmacist's work at the dispensing counter.

This treatise on the methods and processes involved in compounding medical prescriptions has proved of untold value to generations of pharmacists and may indeed, be regarded as the classical work on this subject.

Many of the difficulties and perplexities met with in the daily practice of the art and craft of pharmacy are explained in simple yet concise fashion. This book is a necessary part of the equipment of every dispensary.

New ideas have been incorporated and scientific knowledge has been added to the art formerly based on skilful training during apprenticeship and from experience gained in pharmacies of international repute.

Price 21s.
(Postage 9d.)

Order from your Bookseller or direct from The Publisher:

The
CHEMIST AND DRUGGIST

28 ESSEX STREET ... STRAND ... LONDON W.C.2

Silvikrin

IS NOW THE FASTEST SELLING LIQUID SHAMPOO!



PACKETS OR CASH, whichever way you look at it, chemists are now selling more Silvikrin Liquid Shampoo than any other brand. And some chemists are selling eleven times more Silvikrin shampoo than others *because they are displaying it on the counter!* You cannot make more profitable use of your valuable counter space.

Silvikrin Shampoos

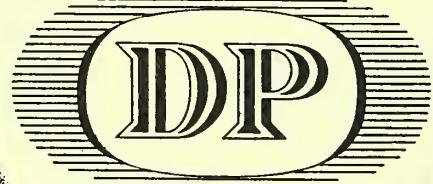
POWDER ★ LIQUID ★ CREAM

MADE BY SILVIKRIN LABORATORIES • HONEYPOD LANE • STANMORE • MIDDLESEX



A GOOD PRODUCT
that is
REGULARLY ADVERTISED
and brings you
REPEAT SALES.

Dirty Paws is now known as



Non-Gritty Hand Cleanser

KAY BROTHERS LIMITED, STOCKPORT

For the . . .

EXTRA ENERGY

*. . . that helps to make
CHAMPIONS
Simpkins*



THE ORIGINAL GLUCOSE TABLETS

USED BY LEADING COMPETITORS IN EVERY SPORT

In 4 delicious flavours

10^d
Pkt

The Best costs no more!

when ordering ZINC OXIDE
insist on —



AND GET THE
Highest Standard of Purity

WHOLESAVERS ONLY SUPPLIED
ENGLISH MANUFACTURE
USED THROUGHOUT THE WORLD

Guaranteed free from lead and arsenic. Its manufacture is supervised throughout by qualified chemists. Each particle size will pass 240 mesh with less than 0.1% residue.

We supply most Wholesalers, but should you have difficulty please contact

H. LATTIMER

22 UPPER GROUND
BLACKFRIARS, LONDON S.E.1

Telephone: WATERLOO 5800

Manufactured by THE FELLING ZINC OXIDE COMPANY

LIPTOL

Fine semi-crepe
TOILET ROLLS

Each 6d.

LIPTOL

Sulphite
TOILET ROLLS

Each 6d.

HILLCREST

Sulphite
TOILET ROLLS

Each 1/-

LIPTONS

Sulphite
TOILET ROLLS

Each 9d.

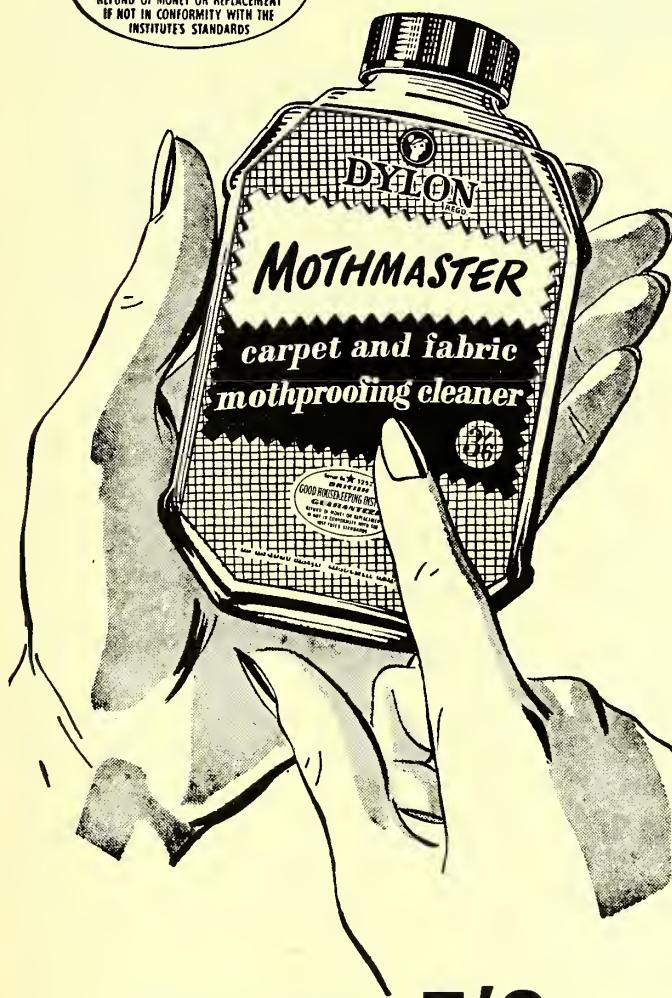
LIPTON'S PAPER MILLS LTD.

BANYARD RD., BERMONDSEY, LONDON, S.E.16

Another DYLON winner at $33\frac{1}{3}\%$ net profit!

MOTHMASTER

*carpet and fabric
mothproofing cleaner*



SELLING PRICE **3/6**

THE ONLY PRODUCT OF ITS KIND GUARANTEED BY THE GOOD HOUSEKEEPING

INSTITUTE made by the manufacturers of Dylon Dyes.

Because scores of thousands of housewives need MOTHMASTER for its double action as a cleaner and mothproofer, this new DYLON product will make money for you. MOTHMASTER not only cleans and moth-proofs carpets and upholstery in one operation — it is also a perfect woollie-washer, cleaning and mothproofing precious woollens and blankets with no smell of camphor or moth-proof memory!

*It is certain that
MOTHMASTER
will make profits faster!*

**Feature this MOTHMASTER
DISPLAY UNIT
on your counter**

We will send you this attractive PLASTIC display unit FREE with initial order for MOTHMASTER packed in cartons, holding 1 dozen bottles.



Enquiries to :



MAYBORN PRODUCTS LTD. DYLON WORKS, SYDENHAM, S.E.26

To introduce the new

CHOCOLATE-FLAVOURED **BEMAX**

2

from 1st Sept. to 16th October we offer
kinds of **BEMAX** and
A BIG BONUS

The introduction of a Chocolate-Flavoured Bemax marks a great occasion. The need for—and the popularity of—this product has been proved by, firstly, a national survey and, secondly, by widespread sampling tests. Nutritionally, both Plain Bemax and the new Chocolate-Flavoured are the same. The demand is there and will certainly prove to be the starting point for immensely increased sales.

Chocolate-Flavoured Bemax is being launched with large-scale advertising . . . in Radio Times, the national and provincial press and women's magazines. Specially attractive display material has been prepared for you . . . as explained in the Bonus announcement already posted to you along with a Free pack of the new product.



BEMAX PARCELS		STANDARD LIST PRICE	QUANTITY TERMS	*SPECIAL BONUS DISCOUNT equivalent to 13 to the dozen	BONUS TERMS	PROFIT
BX.1	3 dozen x 3/- size	85/6	81/9		75/-	33/-
BX.2	1 dozen x 5/6 size 1 dozen x 3/- size	81/-	77/3		70/10	31/2
BX.3	2 dozen x 3/- size ½ dozen x 5/6 size	83/3	79/6		72/11	32/1
BX.4	1 dozen x 1/9 size 1½ dozen x 3/- size ½ dozen x 5/6 size	85/6	81/11	DEDUCTED FROM INVOICE	75/-	33/-

★ The above Bonus discount is additional to the existing trade discount, as well as the discount allowed on quantity orders.

Chocolate-Flavoured Bemax is available in the 3/- size only.

† All despatches of the 3/- size Bemax made under this offer will include 4 packets of the Chocolate-Flavoured Bemax in each dozen ordered.

Reminder!

Send in the order form (already posted to you) between Sept. 1 and Oct. 16th. Use the display material sent with goods for your Window and Counter for at least 14 days during the Bonus period. But remember, too,

it always pays to display BEMAX

If you have not yet received details of the

Bonus Offer write at once for full particulars to VITAMINS LTD. (DEPT. AAI), 23 UPPER MALL, LONDON, W.6

The
CHEMIST AND DRUGGIST
 CLASSIFIED ADVERTISEMENTS

Supplement

28 ESSEX STREET, STRAND, LONDON, W.C.2

ORRIDGE & COMPANY

CHEMIST BUSINESS TRANSFER AGENTS AND VALUERS**BRANCHES: BIRMINGHAM · SOUTHAMPTON · LIVERPOOL · SHEFFIELD · CARDIFF****Irish Representative: Mr. J. A. Bassett, Ph.C., 57 Great Victoria Street, Belfast, Northern Ireland. Tel.: Belfast 27078****TENDERS****URBAN DISTRICT OF MERTON
AND MORDEN**

Preston Hawe Housing Estate, Banstead
Tenders are invited for the lease of a chemist's shop (with sub-post office subject to Postmaster's approval) with or without living accommodation above, to be erected at the Preston Hawe Housing Estate, Banstead, Surrey. Further details available on application to the Clerk of the Council, Morden Hall, S.W.19.
C 7553

APPOINTMENTS

18/- per half-inch (min.) and pro rata.
Box 2/-

PHARMACIST

required for
**TANGANYIKA GOVERNMENT
MEDICAL DEPARTMENT**

for one tour of 2/3 years in first instance with provident fund benefits. Salary scale (including present temporary allowance of 35 per cent of salary) £769 rising to £1,296 a year for men; £615 rising to £1,036 for women, Commencing salary according war service and experience. Outfit allowance up to £45. Free passages. Liberal leave on full salary. Arrangements exist for preserving N.H.S. superannuation rights in approved cases. Candidates must be M.P.S. and have a practical knowledge of hospital routine, stores management and the manufacture of galenicals. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M3A/34598/CD.
C 7564

**BOSTON COMBINED HOSPITALS
(319 Beds)**

Pharmacist

required. All types of hospitals served, Nationally negotiated conditions and salary. Apply, stating age, qualifications, details of previous appointments held (if any) and names of two referees to the Hospital Secretary, Boston General Hospital, South End, Boston, Lincs.

Locum welcomed for interim period. C 7562

**CENTRAL MIDDLESEX
HOSPITAL,
PARK ROYAL, N.W.10**

Locum Pharmacist

required. Salary up to £14 14s. per week, according to experience. Apply immediately to Chief Pharmacist, Central Middlesex Hospital, Park Royal, N.W.10. C 7565

**NORTH-WEST DURHAM
HOSPITAL MANAGEMENT
COMMITTEE**

Applications are invited for the under-noted vacancy:

Senior Pharmacist

(resident or non-resident)
at the SHOTLEY BRIDGE GENERAL HOSPITAL (557 beds).
Appointment offers a thorough experience in all branches of hospital pharmacy. Applicant would be responsible for the manufacture of sterile preparations. Salary and conditions of service according to the Pharmaceutical Whitley Council decisions.
Applications, stating age, qualifications and experience, together with names of two referees should be sent to the Secretary, Shotley Bridge General Hospital, Shotley Bridge, Consett, co. Durham. C 7548

LONDON COUNTY COUNCIL

Chemists with Hons. degree or A.R.I.C. required by the London County Council, one for duty at Northern Outfall Works, Beckton, E.6, and another at the Central Laboratory, County Hall. Experience or research training desirable but not essential. Salary £541-£860, commencing according to experience. Details and application form from Medical Officer of Health (PH.D.I.), County Hall, London, S.E.1—last day October 4, 1954 (1223). C 7549

**SOUTH-WEST GENERAL
HOSPITALS GROUP H.M.C.**

(1) Senior Pharmacist.**(2) Assistant in Dispensing.**

Applications are invited for the above posts at Newmarket General Hospital. The department is responsible for issue of drugs, dressings and instruments. Sterilisation carried out. The Group is mainly supplied from this unit. Salary and conditions of service as laid down by the Whitley Council. Applications, specifying post sought, with full details and names of two referees to Group Secretary, Management Committee Office, Newmarket General Hospital. C 7533

**SPRINGFIELD HOSPITAL,
UPPER TOOTING, S.W.17**

Part-time Pharmacist

5 sessions per week. Apply, stating age, qualifications and experience to Group Secretary. C 7567

**ST. AUGUSTINE'S HOSPITAL,
CHARTHAM, Nr. CANTERBURY**

Assistant in Dispensing

(Male or female) required. Salary scale £335 to £435 plus £15 p.a. for Certificate of Apothecaries or equivalent. (Lower salary applies until 22 years of age). Resident quarters available for female assistant if required. Apply giving age, experience and names of two referees, to Secretary. C 7540

**SUNDERLAND
TECHNICAL COLLEGE**

Principal: D. A. WRANGHAM, M.Sc. (Lond.); Sen.Wh.Sc.; D.I.C.; A.C.G.I.; M.I.Mech.E.

APPLICATIONS are invited for the post of Lecturer in Pharmaceutical subjects in the Pharmacy Department.

Candidates should be graduates in Pharmacy. Preference will be given to candidates having research or industrial experience.

The successful candidate will be required to teach the Pharmaceutical subjects in which he has special experience, to the standard required for the Bachelor of Pharmacy (Honours) Examination of the University of London. He will also be encouraged to undertake research work, for which excellent facilities are available.

The salary will be in accordance with the Birmingham (Technical) Scale for Lecturers:

Men £965 x 25-£1,065

Women £772 x 20- £852

The successful candidate will be required to commence duties as soon as possible. Further particulars and Forms of Application may be obtained from the Registrar, The Technical College, Sunderland, co. Durham.

Applications should reach the undersigned within fourteen days of the appearance of this advertisement.

Canvassing will be a disqualification.

W. THOMPSON,
Director of Education.

Education Offices,

15 John Street,

Sunderland, co. Durham.

C 7525

184 STRAND, W.C.2**Tel.: TEMple Bar 9212/3 & 6340****WHOLESALE AND RETAIL****BRANCHES: BIRMINGHAM · SOUTHAMPTON · LIVERPOOL · SHEFFIELD · CARDIFF****Irish Representative: Mr. J. A. Bassett, Ph.C., 57 Great Victoria Street, Belfast, Northern Ireland. Tel.: Belfast 27078**

**SUNDERLAND AREA HOSPITAL
MANAGEMENT COMMITTEE**

Pharmacist

required for the Central Pharmacy, General Hospital, Sunderland. Salary £450 x £25 to £575 if aged 25 or over; Whitley Council conditions.

Apply immediately, naming two referees, to Group Secretary, General Hospital, Sunderland. C 7546

**THE HOSPITAL FOR SICK
CHILDREN,
GREAT ORMOND STREET,
LONDON, W.C.1**

Pharmacist

Applications are invited for the post of pharmacist at this hospital. Salary within the Pharmaceutical Whitley Council Scale (£450 x £25-£525) plus London Weighting, £25 for recognised higher qualification. Apply by letter to Chief Pharmacist. C 166

**THE LONDON HOSPITAL,
WHITECHAPEL, LONDON, E.1**

Pharmacist

Applicants must be registered Pharmacists. Salary scale £450 (age 23) x £25 to £575 plus London Weighting according to previous experience and service. Dining-room facilities available. Write Secretary. C 179

**WOOLWICH GROUP HOSPITAL
MANAGEMENT COMMITTEE**

Locum Pharmacists

required at St. Nicholas Hospital, Plumstead, S.E.18, and Brook General Hospital, Woolwich, S.E.18. £15 15s. per week. Apply to Chief Pharmacists, telephone: Woo. 1441 and Woo. 1172 respectively. C 7536

**YORK "A" AND TADCASTER
HOSPITAL MANAGEMENT
COMMITTEE**

Senior Pharmacist or Locum Pharmacist

required for County Hospital, York. Salary of permanent appointment £525 x £25-£625 p.a., with higher qualification allowance £25 p.a., e.g., A.R.I.C., F.P.S. Locum fee not less than £15 15s. per week. Applications giving age, qualifications, experience and names of two referees to Secretary, Bootham Park, York, immediately. C 7544

SITUATIONS OPEN

8/6 for 36 words (min.) then 3d. per word.
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The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

RETAIL (HOME)

CENTRAL LONDON. Young lady (unqualified) required for dispensing and counter duties in good-class modern pharmacy. Position is permanent and offers good prospects with progressive firm. Saturday half-day; no Sunday, Bank Holiday or rota duties. Apply with full details, including age, experience and salary required to Box C 7542.

'UNISEC' from the Single Unit to the Complete Pharmacy
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MYERS of OLD ST.
133/5 & 141/7 OLD STREET, LONDON, E.C.1

Situations Open—Continued

EALING. Excellent opportunity for energetic pharmacist to manage nicely fitted branch in pleasant suburban area. Generous salary and monthly bonus. Excellent self-contained flat available near to branch. Good supporting staff. Permanency with pension fund. Apply with full details stating when available for interview to Chief Pharmacist, Grange Road, Leyton, E.10. C 1738.

EDMONTON, N.9. Young lady required as junior counter assistant. Congenial and permanent position. Hours 9 a.m.—6 p.m. Apply, stating age and details of experience to Box C 7516.

HAYES, MIDDLESEX. Excellent opportunity for energetic pharmacist to manage busy branch in pleasant area. Well fitted shop. Adequate assistance. Modern dispensary. Progressive salary with monthly bonus and rota duty payments. Accommodation available if required. Permanency with pension fund, etc. Apply with full details stating when available for interview to Box C 1739.

ILFORD. Pharmacist required to manage expanding branch close to busy main line station. Up-to-date dispensary and excellent supporting staff. Self-contained flat available within easy distance of the branch. Attractive salary and bonus scheme. Apply with full details stating when available for interview to Box C 1737.

LADY PHARMACIST required to manage a modern branch in a pleasant locality. This is a congenial post with excellent conditions of employment. Apply, giving full details, to Peterborough Co-operative Chemists, Ltd., Westgate, Peterborough. C 1694.

LONDON, S.W.12. Old-established family business requires young pharmacist, male or female, for dispensing and counter duties. Knowledge of photography an advantage. Apply with usual particulars to W. J. Boyes, Ltd., 61 Balham Hill. C 1716.

NORTH LONDON. Unqualified dispensing assistant required for pharmacy near the Angel, Edmonton. Duties chiefly dispensing. Permanent position. Salary plus bonus. Hours 9 a.m.—6 p.m. Three weeks holiday a year. Apply stating age and details of experience to Box C 7543.

NORTH LONDON SUBURB. Pharmacist required to manage spacious well fitted branch with substantial counter trade. Good opportunity for ambitious man to earn top salary together with monthly bonus and rota duty payments. Accommodation available if required, or assistance given in house purchase. Superannuation benefits, etc. Apply with full details stating when available for interview to Box C 1740.

PHOTOGRAPHIC ASSISTANTS required, male and female, for first-class chemists' shops, West End and Suburban areas. Good remuneration with excellent prospects to right type of personnel. Apply Western 3820 (Mr. Small). C 7460

UNQUALIFIED lady assistant required, mainly for dispensing, for good-class pharmacy with modern dispensary, Surrey, 15 minutes Waterloo. Previous retail experience essential. Supporting staff. Apply with full particulars of age, salary, etc. Box C 1735.

UNQUALIFIED ASSISTANT required (either sex) for light dispensing and counter. Please state salary required, age, date free, particulars of experience. If engaged fare paid from any part of British Isles. Raymond Smith, 2 Cliff Road, Newquay, Cornwall. C 1743

UNQUALIFIED MALE for London, W.1. Mainly counter with some private dispensing. Congenial working conditions. Box C 1722.

WANTED. M.P.S. (male or female) for pharmacy. Private house available. Rent free. Good hours and conditions. No Sunday work. Wages £15 weekly. Apply to the Garndiffaith & Varteg Co-operative Society, Ltd., Garndiffaith, Mon. C 1682

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RETAIL (OVERSEAS)

EAST AFRICA: British owned company have vacancy for a pharmacist, preferably single, male. Retail, dispensing, photographic and veterinary. For particulars re conditions, salary, accommodation, and cost of living please apply in first instance to Box C 1684.

WHOLESALE

A FIRM OF LEADING MANUFACTURING CHEMISTS, marketing ethical proprietaries in the United Kingdom, are wanting to extend their medical representative sales staff in all parts of the country. Applications are required from representatives with previous experience. Car owner essential. Good salary and generous car allowance paid. Pension scheme in operation. Please give full details of experience and salary requirements in initial application. Apply, General Sales Manager, Calmic Limited, Crewe Hall, Crewe. C 7569

A MEDICAL REPRESENTATIVE will shortly be required by an international company manufacturing ethical preparations, to call on doctors and hospitals only in the South Wales area. Residence in the area will be required. The Representative appointed will be required to work on his own initiative and previous experience of the work will be an advantage. Remuneration will be above average and a company car will be provided. Applications, which will be treated in the strictest confidence, are invited from suitably qualified persons and should be addressed to Box C 7541.

ANALYST REQUIRED by well-known London pharmaceutical manufacturing house. Good working conditions. Please state experience and salary required to Box C 7559.

A VACANCY OCCURS for a factory manager for a small modern and expanding pharmaceutical plant in the Western outskirts of London. Applicants should be about 35 years old, possess a pharmaceutical qualification and be thoroughly experienced in pharmaceutical manufacturing processes particularly tabletting, packaging, personnel management, etc. Congenial post offering excellent opportunity for personal progress to keen man of ideas and enterprise. Fullest details in confidence, stating experience and salary required to Box C 7527.

A WELL-KNOWN FIRM OF MANUFACTURING CHEMISTS is about to extend its range of advertised lines and seeks representatives or commission agents in nearly all territories. Write in first instance for application form to Sales Director. Apply Box C 7570.

BAYER PRODUCTS, LTD. require a young man with energy and the right technical background for managerial position in their expanding fine chemical and disinfectant sales department. Successful candidate will spend part of his time calling on customers and a car will be provided. Good prospects for the right man. Applications in confidence to Sales Director, Bayer Products, Ltd., Africa House, Kingsway, London, W.C.2. C 7551

BOTTLE TRAVELLER WANTED. Salesman/representative required with previous experience in selling bottles, jars and screw caps. Write giving full particulars to Reliance Trading Company, 13 New College Parade, Finchley Rd., London, N.W.3. C 7432

C. L. BENCARD, LTD., have a vacancy for a medical representative in an established territory comprising Northumberland, Cumberland and Durham. Applications are invited from men with personality and initiative who have had previous experience in detailing ethical products to all branches of the medical profession. Remuneration is by a progressive salary, a company car is provided and all expenses are paid. The appointment is covered by a Life Assurance Pension and a profit-sharing scheme. Apply, in own writing, stating age, experience and salary required to: Sales Manager, Minerva Road, N.W.10. C 7515

CHEMIST/WORKS MANAGER required to control factory equipped with modern distillation and separation plant. Real opportunity for qualified practical man with sound ideas and experience. Full details in confidence. Box C 7557.

C. L. BENCARD, LTD., have a vacancy for a medical representative in an established territory comprising Hampshire, Dorset and Wiltshire. Applications are invited from men with personality and initiative, who have had previous experience in detailing ethical products to all branches of the medical profession. Remuneration is by a progressive salary, a company car is provided and all expenses are paid. The appointment is covered by a life assurance pension and a profit-sharing scheme. Apply in own writing stating age, experience and salary required to: Sales Manager, Minerva Road, N.W.10. C 7556

EXCELLENT OPPORTUNITY for representative calling on chemists to carry two additional nationally advertised proprietary lines on good commission basis. Territories vacant: South Wales/Northumbria and Durham. The advertisers are well-known rapidly expanding manufacturers. Apply Box C 7509.

EXPORT SHIPPING CLERK required by pharmaceutical house. Knowledge of invoicing and export/import documentation. Good salary and prospects. Halewood Chemicals, Ltd., 111/115 Eastbourne Mews, Paddington, W.2. C 7537

HARKER, STAGG, LTD., require representatives in the medical products field, based on the following areas: Glasgow, Manchester, Birmingham, South Wales, Bristol, London. Connection with hospitals in the area concerned is essential and experience of detailing to the medical profession in the same area an advantage. Salary and expenses, Car provided. Full details, in confidence, and salary required, to Sales Director, Emmott Street, London, E.1. C 7557

LONDON MANUFACTURING CHEMISTS wish to appoint male assistants between the ages of 20 and 30 years for engagement in their manufacturing processes. Men with experience in factory and laboratory work essential, although a few years only experience would be acceptable. Apply Box C 195.

MANCHESTER COMPANY, manufacturing compound perfumes and flavouring essences, require an assistant chemist. Write full particulars, stating salary required. Box C 1741.

MARKETING EXECUTIVE, Benger Laboratories, Limited, invite applications from pharmacists for an appointment at their head office. The work includes all aspects of the home and overseas marketing of pharmaceutical products in ethical, consumer and veterinary fields. The appointment offers considerable scope for progress, is permanent and pensionable. Applications, which will be treated in confidence, should give fullest details of age and experience, and be sent to the Marketing Controller, Benger Laboratories, Ltd., Holmes Chapel, Cheshire. C 7552

MEDICAL REPRESENTATIVES: Sandoz Products, Ltd., invite applications from young men for the immediate appointment of medical representative in the following areas: (a) Bristol, including Gloucestershire, Somerset, Devon and Cornwall; (b) South Wales, including South Welsh counties and Herefordshire; (c) North West Glasgow and North Western Scotland; (d) Oxfordshire, Berkshire, Buckinghamshire and Northamptonshire; (e) London, South West, Age not exceeding 28. Applicants should be pharmacists (preferably F.P.S.). Salary commensurate with experience. Thorough training provided. Please send full details of age, education, qualifications and experience, with photograph, to the Manager, Sandoz Products, Ltd., 134 Wigmore Street, London, W.I. C 7530

MANUFACTURERS now extending activities, require hard working salesmen with character, personality and who can really sell—men who give and expect a fair deal. Areas available include Southern Counties, Scotland, Yorkshire and Lancashire, West Country. Applicants must be car owners and consideration will be given to those preferring joint representation with their present house. Address to Managing Director, Box C 1736.

PHARMACIST REQUIRED as control chemist by well-known firm of manufacturing chemists on South Coast. Previous experience desirable, age not more than 30. State full particulars of previous experience. Apply Box C 7568.

MEDICAL REPRESENTATIVES

A British-controlled company in association with a research organisation of international repute, requires experienced representatives to call on doctors, hospitals and chemists in the London area. A generous salary will be paid and there is a bonus scheme which will depend on the results achieved. Apply in writing, giving details of career, to The J. Walter Thompson Company, Ltd., 40 Berkeley Square, W.1.

C 7528

Situations Open—Continued

REPRESENTATIVE REQUIRED by well-established firm wholesale chemists for North London and North-west suburbs. Experienced man, accustomed to calling on retail chemists preferred. Apply giving full details to Warren, Stanley, Ltd., Wholesale Chemists, 129 High Street, Edgware. C 1709

REPRESENTATIVES REQUIRED calling on wholesale and retail chemists, to carry additional line. Zems, Ltd., 722/724 Seven Sisters Rd., N.15. Sta. 6658. C 7531

SENIOR REPRESENTATIVE for Yorkshire required by toilet goods manufacturers who lead their field. Applicants should be under 45, have experience of chemists and must be both successful salesmen personally and be able to train and supervise other men. Commencing salary up to £1,250 plus expenses and car allowance, with good prospects. Write, giving details of age, experience, present salary bracket, whether car owner or not to Box C 7565.

THE CROOKES LABORATORIES LIMITED
Medical Representative

Applications are invited for a representative to call on doctors, chemists and hospitals in the Liverpool and West Lancashire area. A pharmaceutical qualification or an adequate technical background is essential. Candidates should preferably be aged 25-40 and possess personality and initiative. The appointment carries a progressive salary and an annual bonus/commission payment, directly associated with territorial results obtained, together with an adequate expense allowance. The position is superannuated, and only candidates with a keen desire to progress should apply, in writing, to the Sales Director, The Crookes Laboratories, Ltd., Gorst Road, Park Royal, N.W.10. C 7513

THE BRITISH DRUG HOUSES, LTD. Sales representatives. Applications are invited for sales representatives in: (1) East Midlands centred on the Nottingham area; (2) South Midlands based on Birmingham. Applicants must be pharmacists and not more than 40 years of age. Please write fully regarding experience, salary, etc., to British Drug Houses, Ltd., reference HAC/CMH, Graham Street, London, N.1. C 7572

VEGETABLE EXTRACTS. Qualified chemist with good practical experience required to take charge of factory and laboratory, and develop output. Preference given to applicant with ideas. Write in confidence, Box C 7558.

WOMAN PHARMACIST with some dispensing experience required for a permanent post in dispensary. Five-day week, Pension and profit-sharing schemes. Apply in writing stating age, experience and salary required to the Staff Manager, The British Drug Houses, Ltd., Graham Street, City Road, N.1. C 7538

WHOLESALE (OVERSEAS)

BEECHAM GROUP, LTD., have managerial vacancies for Pharmacists (B.Pharm. and/or Ph.C.) age 25 to 35, in some of their overseas factories. The positions carry full responsibility for the efficient management (including chemical and physical control of the products) of factories producing medicinal and toilet proprietaries. The successful applicants will receive full training in this country in the manufacture and quality control of the specified proprietaries manufactured abroad. On posting abroad a four-figure salary is envisaged, plus local allowances. Apply in writing, giving full particulars of qualifications and experience to Personnel Controller, Beecham Group, Ltd., 68 Pall Mall, London, S.W.1. C 7526

WESTMINSTER LABORATORIES, LTD.**HOME SALES MANAGER**

Applications are invited for the position of Home Sales Manager. Pharmaceutical qualifications and marketing experience in both ethical and public products desirable. Excellent working conditions; good salary and prospects; pension scheme. Write giving full particulars, including age, to General Manager, Westminster Laboratories, Ltd., Chalcot Road, London, N.W.1. C 7560

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SOLE DISTRIBUTOR

Manufacturers of household name proprietary product wish to appoint a sole distributor for the British Isles. Please state extent of present distribution. Box C 1721.

MESSRS. E. F. STEINMETZ, Keizersgracht 714, Amsterdam (Netherlands) are open to appoint someone who regularly visits pharmaceutical trade, etc., in British Isles for sale of books and periodical on herbs on provision basis. C 1731

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AGENCY. Company with expanding connection among chemists, stores, etc., London and Southern Counties, require additional quick selling and repeatable lines on commission basis (not bulk chemicals). Write Box C 1723.

CENTRAL DUBLIN manufacturing chemists offer manufacturing and/or packing facilities for pharmaceutical solid or liquid goods. Apply Box C 1719.

ONE GOOD AGENCY REQUIRED. London and Home Counties or whole of U.K. Must be for highly reputable firm. Advertiser is man of standing with best contacts chemists, stores, etc., over 20 years. Team of reps. available. Box C 1732.

BUSINESS OPPORTUNITIES

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ADVERTISER with a small but progressive business desires packing and despatching facilities for two ethical specialties, an ointment and an emulsion, in or near London. Box C 7554.

MANUFACTURING CHEMISTS invite inquiries for the manufacture, packing, etc., of private formulae preparations, liquids, powders, tablets. Dispatch facilities available with own printing department. Frank Macowal & Yanatas, Ltd., Willsaw St., London, S.E.14. Tel.: Tideway 3846-8. C 122

WANTED

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ALL KINDS OF BOTTLES, JARS, SCREW CAPS, cartons, packaging materials and manufacturers' stocks of all kinds bought at fair price for spot cash. We are buyers of merchandise of EVERY DESCRIPTION. Clearance Stocks, Discontinued lines. Surplus and Redundant Stocks. Should you have anything for disposal, please send us samples and particulars. Reliance Trading Co., 13 New College Parade, Finchley Road, N.W.3. C 153

WE WILL PURCHASE for cash a complete stock, a redundant line, including finished or partly finished goods, packing raw materials, etc. No quantity too large. Our representative will call anywhere. Write or telephone:—Lawrence Edwards & Co., Ltd., 6/7 Wellington Close, Ledbury Rd., London, W.11. Tel.: Bayswater 4020, 7692. C 140

PACKING BELT 15 to 20 feet or near urgently required. Robert Blackie, Ltd., Pomeroy St., London, S.E.14. New Cross 1222. C 7547

Wanted—Continued

WANTED: Asbestos waste, fibre, millboard, cloth, yarn, siftings. Linseed oil foots. All qualities Beckasol; Synthetic technical camphor powder; chromium oxide green; zinc chloride; soft and stiff white petroleum jelly; iso-propyl alcohol; acid oils from hardening oils. Apply Box C 7550.

WANTED URGENTLY: Two Manesty "No. 3" tablet presses, also a bath cube wrapping machine. Apply Box C 1725.

SALES BY AUCTION

18/- per half-inch (min.) and pro rata.
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B. NORMAN & SON (est. 130 years), 2/5 Little Britain (close G.P.O.), London, E.C.1, will auction on Wednesday, October 6, at 1.30 p.m., excellent light oak chemists' fixtures, drug runs, plate-glass showcases, cash tills, mirrors, display stands, office effects, safes, typewriters, etc. View day prior. Catalogues (3d. by post) on application. C 7561

PUBLIC NOTICE

18/- per half-inch (min.) and pro rata.
Box 2/-

NOTICE is hereby given that the Partnership heretofore subsisting between us the undersigned CHARLES BERTRAM WOOLLONS and LEOPOLD BARNATO carrying on business as Chemists, Druggists and Photographic Dealers under the style or firm of C. WOOLLONS at 256 Hendon Way, London, N.W.4, has been dissolved by mutual consent as from the 1st January, 1954, so far as concerns the said Charles Bertram Woollons who retires from the said firm. ALL debts due to and owing by the said late firm will be received and paid respectively by Leopold Barnato who will continue to carry on the said business at 256 Hendon Way, aforesaid.

DATED the 25th day of September, 1954.
C. B. WOOLLONS
L. BARNATO.

C 1733

**IN THE HIGH COURT OF JUSTICE
IN NORTHERN IRELAND
CHANCERY DIVISION. 1952 No. 112**

**IN THE MATTER OF THE
COMPANIES ACT
(NORTHERN IRELAND) 1932,**
and

**IN THE MATTER OF DISPENSING
AND SURGICAL COMPANY
(BELFAST), LIMITED**

The Creditors of the above-named Company are required on or before the 18th day of October, 1954, to send in their names and addresses and particulars of their debts or claims and the names and addresses of their Solicitors (if any) to Arthur Stanley Boyd of 18 Arthur Street, Belfast, Chartered Accountant, the Official Liquidator of the Company, and, if so required by notice in writing from him, are by their Solicitor or personally, to come in and prove their debts and claims at Chambers, Room 21, Royal Courts of Justice (Ulster), Belfast, at such time and place as shall be specified in such notice, or in default thereof, they will be excluded from the benefit of any distribution made before such debts are proved.

MONDAY, the 25th day of October, 1954, at 11 o'clock in the forenoon, at the said Chambers, is appointed for hearing and adjudicating upon the Debts and Claims.

Dated this 17th day of September, 1954.
(Signed) JAMES K. DAVIS,
Chief Clerk,

Carson, Baillie, Johnston & Thom,
Solicitors for Official Liquidator,
41/51 Royal Avenue, Belfast,
C 1734

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QUIET AND ACCURATE workmanship. Over 30 years' practical experience. Detailed inventories supplied to suit your individual requirements. Your own stock sheets priced. Terms moderate. C. W. Playfoot, 8 Aylward Road, London, S.W.20. Phone Liberty 4104. C 190

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FOR SALE: Finex tablet counting machine. Two counting heads, 400/440 v. 3-phase motor: £90 complete or offer. Frank Macowal & Yannas, Ltd., Wilshaw Street, London, S.E.14. C 7563

MODERN CHEMIST SHOP fittings, drug ranges, wallcases and frameless sliding doors, display counters and showcases; all styles of window fittings and display stands. D. Matthews & Son, Ltd., Complete Chemist Shop Fitters and Shop Front Builders, 14/16 Manchester St., Liverpool. C 141

STANDARD SACCHARIN TABLETS in packets of 100, aspirin tablets, 25's, 50's and 100's, and bicarbonate of soda in 4-oz. drums. Inquiries invited. Name and address printed no extra charge on orders of 1 dozen to 100 gross. Prices and samples on application. Tell Products, Ltd., Welbeck Works, 93 Cobbold Road, London, N.W.10. Tel.: Willesden 6873. C 149

IMPORTERS. Portuguese firm offers prime green olive sulphur oil, raw cod-liver oil, fish oils, fish meal. Silvades (C), rua da Prata 184, Lisbon, Portugal. Telegraphic address: Silvades, Lisbon. C 1724

PARTNERSHIPS

17/6 for 36 words (min.) then 4d. per word.
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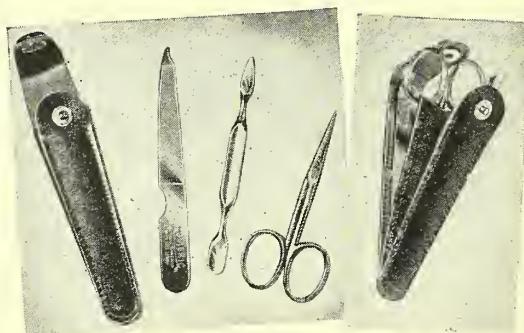
PARTNER REQUIRED to expand business, experienced wholesale purchasing and sales either of the following trades: Chemicals, industrial, pharmaceutical; fats, edible, technical; food/cereals, spices, tinned goods including meat, fruit, veg./baker and confectionery sundries. Very good prospects capable gentleman. Capital not first consideration. Applications with full details in confidence. Box C 1742.

ANALYTICAL CHEMIST

(Male or Female) for specialised Laboratory Work required by well-known company of Manufacturing Chemists in North of England. Fullest details of age, previous experience, present employment and salary required, should be given and will be treated in confidence. Position is pensionable. Box C 7369.

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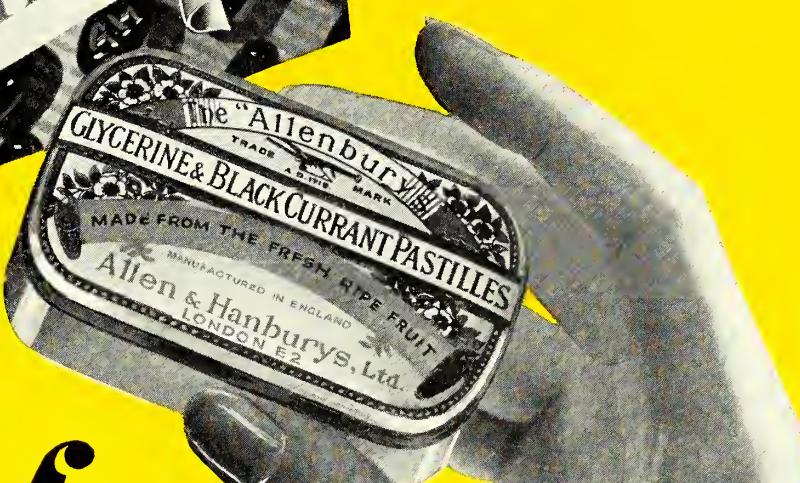
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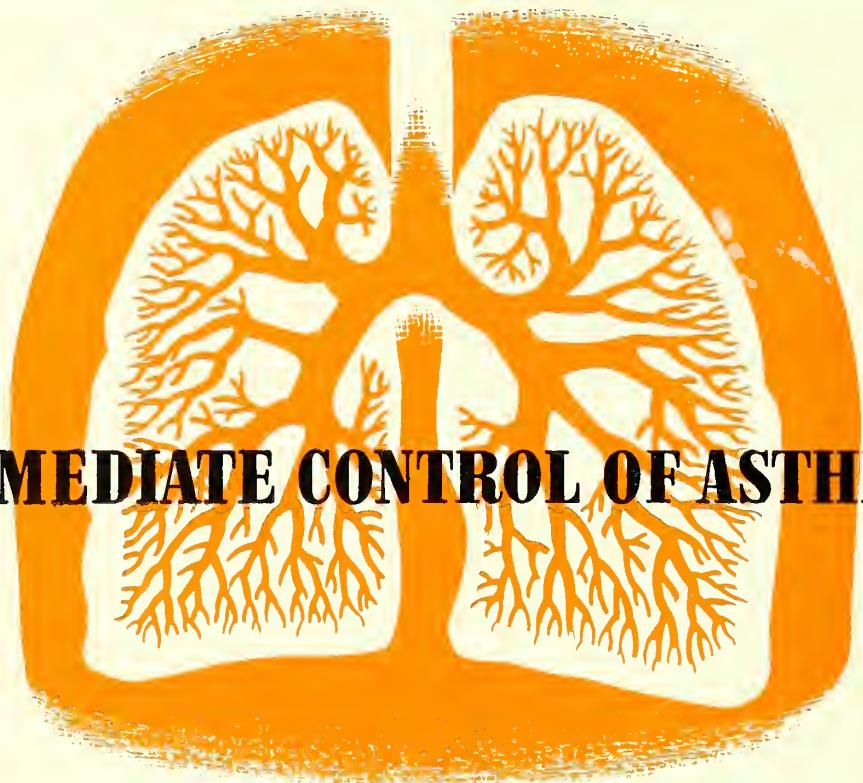


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